

APPENDIX C-1

*2018 Focused Quino Checkerspot Butterfly Survey
Report for the Campo Wind Project*

July 11, 2018

10212

U.S. Fish and Wildlife Service
Attention: Stacey Love, Recovery Permit Coordinator
2177 Salk Avenue, Suite 250
Carlsbad, California 92008

Subject: 2018 Focused Quino Checkerspot Butterfly Survey Report for the Campo Wind Project, Campo, San Diego County, California

Dear Ms. Love:

This letter report documents the spring 2018 results of a focused survey conducted by Dudek for the federally listed endangered Quino checkerspot butterfly (*Euphydryas editha quino*; Quino). This survey was conducted in support of the Campo Wind project located within the community of Campo, San Diego County, California. This report is intended to satisfy reporting requirements for the following Quino-permitted biologists: Anita Hayworth (TE-781084-9.1), Callie Amoaku (TE-36118B-1), Darin Busby (initially working under Melissa Busby's permit until permit renewal of TE-115373-4), David Erik LaCoste (TE-027736-6), Diana Saucedo (TE-221287-1), Erin Bergman (TE-813545-5), Jeff Priest (TE-840619-6), Margie Mulligan (TE-88969B-0), Melissa Busby (TE-0807792-3), Patricia Schuyler (TE-27502B-1), Paul M. Lemons (TE-051248-5), and Tricia Wotipka (working under TE-840619-6).

PROJECT LOCATION AND EXISTING CONDITIONS

The proposed project site is located on tribal lands within the community of Campo in San Diego County, California, on Assessor's Parcel Numbers 608-101-01, 608-110-06, 608-110-07, 608-120-01, 608-120-02, 608-120-03, 608-120-04, 608-120-05, 609-020-08, 609-040-16, 609-050-15, 609-050-16, 609-110-01, 609-130-16, 609-140-01, 609-150-01, 610-020-05, 610-020-06, 610-080-08, 610-080-09, 610-080-17, 610-110-23, 610-130-01, 610-130-02, 610-130-03, 610-130-04, 610-130-05, 610-130-06, 610-130-07, 657-020-06, 657-030-01, 657-030-02, 657-080-09, 657-100-01, 657-100-02, 657-110-01, 657-110-02, 658-010-01, 658-070-03, 658-070-16, 658-130-01, 658-130-02, 760-120-12, and 760-120-13 (Figure 1, Survey Results – Index). The study area consisted of the proposed wind turbine locations with a 250-foot-wide buffer (total of 500-foot-wide area), and associated roads and infrastructure. In early April, the study area was modified slightly, resulting in 0.6 acres being removed from the study area and 45.7 acres being added (Figures 2 and 3, Survey Results). The additional areas were slivers of land adjacent to the

existing survey areas that were within the line of sight from the Weeks 1 through 4 surveys; therefore, the addition of these areas does not change the conclusions of the report.

The project site is located on the Campo Band of Kumeyaay Indians Reservation in southeastern San Diego County, approximately 60 miles east of the City of San Diego, California, in the vicinity of the unincorporated communities of Campo, Boulevard, and Live Oak Springs. The project site's elevation is between approximately 3,153 and 4,168 feet above mean sea level. The Campo Band of Kumeyaay Indians Reservation includes lands both north and south of Interstate 8 along the Tecate Divide, extending from the southern boundary of the Manzanita Indian Reservation to the north and south to 0.25 miles north of the U.S. international border with Mexico. The project site is within the U.S. Geological Survey's 7.5-minute Live Oak Springs, Cameron Corners, Tierra Del Sol, and Campo quadrangle maps within Township 17 South, Range 6 East, Sections 01, 12, 13, 14, 15, 20, 21, 22, 23, 27, 28, 33, and 34; Township 17 South, Range 7 East, Section 06; and Township 18 South, Range 6 East, Sections 03, 04, 05, 08, 09, 10, 11, 14, 15, 16, 17, 20, and 21.

The project site includes undeveloped land as well as paved and dirt roads. Additionally, the site is characterized by rural, large-lot ranches and single-family homes, as well as an old sand mine.

According to the U.S. Department of Agriculture, Natural Resources Conservation Service, the following seven soil series were mapped on site: Calpine (coarse sandy loam, 5% to 9% slopes, eroded); Kitchen Creek (loamy coarse sand, 5% to 9% slopes; loamy coarse sand, 9% to 15% slopes, eroded); La Posta (loamy coarse sand, 5% to 30% slopes, eroded; loamy coarse sand, 5% to 30% slopes, severely eroded; rocky loamy coarse sand, 5% to 30% slopes, eroded); loamy alluvial land; Mottsville (loamy coarse sand, 0% to 2% slopes; loamy coarse sand, 2% to 9% slopes; loamy coarse sand, 9% to 15% slopes); and Tollhouse (rocky coarse sandy loam, 30% to 65% slopes; rocky coarse sandy loam, 5% to 30% slopes, eroded) (USDA 2018).

VEGETATION COMMUNITIES

Vegetation communities are currently being mapped and the data is not yet finalized. In general, the project site supports chaparral, scrub, grassland, and oak woodland communities.

QUINO CHECKERSPOT BUTTERFLY SURVEY

Background Information

The Quino was added to the federal Endangered Species List by the U.S. Fish and Wildlife Service on January 16, 1997 (62 FR 2313–2322). The species, Edith's checkerspot (*E. editha*),

has a range extending from British Columbia and Alberta, Canada, south through Colorado and Utah, and west along the coast to northern Baja California. It is divided into 20 subspecies, each of which has its own range and biological and morphological characteristics. In California, there are 12 subspecies (Garth and Tilden 1986). Three other subspecies of *E. editha* are currently known to occur in Southern California. The Quino (*E. editha quino*) is the southwesternmost subspecies of *E. editha* (Mattoni et al. 1997).

The Quino is known to occur in association with a variety of plant communities, soil types, and elevations (up to 5,000 feet). The plant communities include clay soil meadows, open grasslands, coastal sage scrub, chamise chaparral, red shank chaparral, juniper woodlands, and semi-desert scrub (Ballmer et al. 2001). The Quino is also associated with clay soils that possess cryptogamic crusts and vernal pools (USFWS 2002).

The Quino is a medium-sized butterfly (approximately 0.8-inch to 1.1-inch wingspan) belonging to the family Nymphalidae. The adults are primarily orange-red with white and have black markings on the dorsal wing surface. They are active primarily in March and April. This active period may vary depending on weather conditions (Ballmer et al. 2001). The adult butterfly feeds on nectar, which it obtains from spring annuals such as popcorn flower (*Plagiobothrys* spp., *Cryptantha* spp.), whitedaisy tidytops (*Layia glandulosa*), goldenbush (*Ericameria* spp.), pincushion (*Chaenactis* spp.), fiddleneck (*Amsinckia* spp.), chia (*Salvia columbariae*), and bluedicks (*Dichelostemma capitatum*), among others.

Adult males and virgin females sometimes “hilltop,” or travel to elevated locations to find mates. While waiting for females to arrive, the males will often exhibit territorial behavior and will chase other butterflies that approach them. Frequently, the butterflies are observed in meadows or clearings where their host plants occur (Ballmer et al. 2001).

A female may lay 20 to 75 eggs at one time and may produce up to 1,200 eggs in her lifetime. The eggs hatch in approximately 10 days under favorable weather conditions and the young larvae will immediately begin to feed on a host plant. The feeding larvae use the dwarf plantain (*Plantago erecta*), Patagonia plantain (*P. patagonica*), Coulter’s snapdragon (*Antirrhinum coulterianum*), and Chinese houses (*Collinsia concolor*) as their host plants (Pratt 2009). Stiffbranch bird’s-beak (*Cordylanthus rigidus*) and exserted Indian paintbrush (*Castilleja exserta*) are considered secondary hosts (USFWS 2002).

After feeding, the early larva enters an obligatory aestival diapause (dormant stage), which may be broken after fall or winter rains (Murphy and White 1984; Osborne 1998). If adverse weather conditions occur, the emergent larva may reenter a diapause stage repeatedly, for up to 5 or 6

years, until favorable weather conditions permit sufficient growth of the host plant to allow the larva to complete its development.

The Quino was once common in Southern California. It ranged north into Ventura County, west to the Pacific Ocean, east to the deserts, and south into northern Baja California. Currently, it is known to occur only in a few, probably isolated, colonies in southwestern Riverside County, San Diego County, and northern Baja California.

Reasons for the butterfly's reduction in population are not well understood. Habitat loss due to degradation and fragmentation caused by urban and rural development, agricultural conversion, off-road vehicular use, the invasion of non-native plants and insects, fire management practices, over collecting, and adverse weather conditions have likely contributed to the species' decline (62 FR 2313–2322).

The 2014 U.S. Fish and Wildlife Service protocol states that focused Quino surveys begin the third week of February and end the second Saturday in May unless otherwise approved by the FWS. Surveys must be conducted during the adult flight season by biologists possessing a recovery permit for this species pursuant to Section 10(a)(1)(A) of the Endangered Species Act (USFWS 2014). The 2018 focused surveys followed the 2014 U.S. Fish and Wildlife Service protocol with the addition of an amendment included in the 2018 notification (USFWS 2018). The approved amendment allowed for surveys to begin the week of March 12 to account for the location's higher elevation, generally colder conditions, and generally later start of Quino emergence.

Methods

Prior to the focused surveys, Dudek biologists conducted a habitat assessment within the study area in order to identify suitable habitat and exclude unsuitable habitat. Excluded areas consisted of developed areas and densely vegetated chaparral with tall shrubs forming closed canopies. Host plant surveys were performed in concert with the habitat assessment and augmented during the survey effort.

Focused Quino surveys were conducted over 10 visits between March 3, 2018, and May 15, 2018, per the Quino survey guidelines published on December 15, 2014 (USFWS 2014).¹ The survey area consisted of suitable habitat for Quino (Figures 2 and 3). Surveys were conducted by Quino-permitted biologists Anita Hayworth (TE-781084-9.1), Callie Amoaku (TE-36118B-1), Darin Busby (initially working under Melissa Busby's permit until permit renewal of TE-115373-

¹ Only nine passes were completed at survey area 1 due to weather-related survey cancellations.

4), David Erik LaCoste (TE-027736-6), Diana Saucedo (TE-221287-1), Erin Bergman (TE-813545-5), Jeff Priest (TE-840619-6), Margie Mulligan (TE-88969B-0), Melissa Busby (TE-0807792-3), Patricia Schuyler (TE-27502B-1), Paul M. Lemons (TE-051248-5), and Tricia Wotipka (working under TE-840619-6).

The biologists were provided with 200-scale (1 inch = 200 feet) aerial maps of the survey area. Binoculars were used to aid in detecting and identifying butterfly and other wildlife species. Surveys also focused on identifying Quino host plants; however, only dried host plants from last year were observed. Therefore, no host plants were mapped on site.

The survey methods consisted of slowly walking roughly parallel transects spaced approximately 30 feet (10 meters) apart throughout all suitable habitats within the 699-acre study area. The site was divided into 10 survey areas, ranging from 62 acres to 82 acres (Figures 2 through 6, Survey Results). Survey routes were arranged to thoroughly cover the survey area at a rate of no more than 5 to 10 acres per person hour. All wildlife species observed were recorded and are listed in Appendix A.

Surveys were conducted only during acceptable weather conditions (i.e., surveys were not conducted during fog, drizzle, or rain; winds greater than 15 miles per hour measured 4 to 6 feet above ground level for more than 30 seconds; temperature in the shade at ground level less than 60°F on a clear, sunny day; or temperature in the shade at ground level less than 70°F on an overcast or cloudy day). Survey times, personnel, and conditions during the Quino survey are shown in Table 1. Copies of the surveyors' field notes are included as Appendix B.

Weather conditions at the project site varied throughout the survey season, and numerous surveys were postponed or ended early/began late due to high winds, cloud cover, and/or low temperatures. Because of these weather conditions, some areas were surveyed over 2 days in order to complete the survey. If a survey pass was missed due to sustained inclement weather, a makeup survey was performed on non-consecutive days the following week, in accordance with the protocol (USFWS 2014).

Table 1
Schedule of Focused Quino Checkerspot Butterfly Surveys

Survey Area	Survey Pass	Survey Date	Biologist	Survey Time	Conditions	Notes
N/A	Habitat assessment	2018-02-21	EB	8:00 AM–5:00 PM	45°F–63°F; 20%–30% cloud cover; 0–4 mph wind; clear	
N/A	Habitat Assessment	2018-02-22	SC	8:00 AM–3:30 PM	45°F–63°F; 20%–30% cloud cover; 0–4 mph wind; clear	

Table 1
Schedule of Focused Quino Checkerspot Butterfly Surveys

Survey Area	Survey Pass	Survey Date	Biologist	Survey Time	Conditions	Notes
N/A	Habitat Assessment	2018-02-28	SC, MF	8:00 AM–3:30 PM	47°F–66°F; 10%–50% cloud cover; 0–4 mph wind	
1	1	2018-03-12	MM	9:40 AM–4:08 PM	Air temp: 63°F–73°F; ground temp: 60°F–75°F; 20%–30% cloud cover; 3–5 mph wind; patchy	
	2	2018-03-20	EL, MM	9:40 AM–4:08 PM	Air temp: 65°F–70°F; ground temp: 0°F–75°F; 0%–20% cloud cover; 1–4 mph wind; clear to patchy	Survey included area 2
	3	2018-03-28	EL, MB	9:20 AM–4:15 PM	Air temp: 65°F–66°F; ground temp: 0°F–65°F; 0% cloud cover; 1–10 mph wind; clear	Survey included area 2
	4	2018-04-04	EL, MM	9:30 AM–4:15 PM	Air temp: 73°F; ground temp: 73°F–74°F; 30%–50% cloud cover; 0–10 mph wind; patchy	Survey included area 2
	5	2018-04-23	DS	9:05 AM–4:20 PM	Air temp: 73°F–85°F; ground temp: 73°F–87°F; 0%–50% cloud cover; 0–7 mph wind; clear to patchy	
	6	2018-04-27	DB, EL	8:45 AM–3:30 PM	Air temp: 71°F–78°F; ground temp: 69°F–82°F; 0% cloud cover; 1–15 mph wind; clear	Survey included area 4
	7	2018-05-04	JP	9:40 AM–5:00 PM	Air temp: 73°F–80°F; ground temp: 72°F–82°F; 0% cloud cover; 2–8 mph wind	
	8	2018-05-07	EL	8:45 AM–3:30 PM	Air temp: 73°F–83°F; ground temp: 68°F–88°F; 0%–10% cloud cover; 1–17 mph wind; clear	
	9	2018-05-15	DS	9:15 AM–12:40 PM	Air temp: 67°F–78°F; ground temp: 67°F–76°F; 0% cloud cover; 5–8 mph wind; clear	
2	1	2018-03-13	MM	9:50 AM–4:05 PM	Air temp: 62°F–69°F; ground temp: 65°F–69°F; 100% cloud cover; 1–4 mph wind	
	2	2018-03-20	EL, MM	9:40 AM–4:08 PM	Air temp: 63°F–70°F; ground temp: 65°F–73°F; 0%–20% cloud cover; 1–4 mph wind; clear to patchy	Survey included area 1
	3	2018-03-28	EL, MB	9:20 AM–4:15 PM	Air temp: 65°F–66°F; ground temp: 0°F–65°F; 0% cloud cover; 1–10 mph wind; clear	Survey included area 1

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Schedule of Focused Quino Checkerspot Butterfly Surveys

Survey Area	Survey Pass	Survey Date	Biologist	Survey Time	Conditions	Notes
	4	2018-04-04	EL, MM	9:30 AM–4:15 PM	Air temp: 73°F; ground temp: 73°F–74°F; 30%–50% cloud cover; 0–10 mph wind; patchy	Survey included area 1
	5	2018-04-09	DB	8:30 AM–4:00 PM	Air temp: 71°F–76°F; ground temp: 68°F–78°F; 0% cloud cover; 6–14 mph wind; clear	
	6	2018-04-20	MM	9:25 AM–4:30 PM	60°F–75°F; 0% cloud cover; 2–9 mph wind; clear	
	7	2018-04-25	EL	8:45 AM–3:15 PM	Air temp: 66°F–75°F; ground temp: 66°F–75°F; 0% cloud cover; 6–13 mph wind; clear	
	8	2018-05-08	DS, EL	8:45 AM–4:15 PM	Air temp: 75°F–88°F; ground temp: 71°F–92°F; 0% cloud cover; 1–8 mph wind; clear	Survey included area 7
	9	2018-05-10	JP	8:40 AM–4:40 PM	Air temp: 76°F–82°F; ground temp: 74°F–88°F; 0% cloud cover; 3–10 mph wind	
	10	2018-05-16	DS	8:45 AM–4:00 PM	Air temp: 67°F–74°F; ground temp: 68°F–73°F; 0% cloud cover; 5–13 mph wind; clear	
3	1	2018-03-12	EL	9:35 AM–3:25 PM	Air temp: 58°F; ground temp: 58°F–62°F; 40%–50% cloud cover; 3–8 mph wind; patchy	
	2	2018-03-20	DB, MB	9:30 AM–1:00 PM	Air temp: 62°F–74°F; ground temp: 64°F–78°F; 0%–20% cloud cover; 3–6 mph wind; clear to patchy	
	3	2018-03-29	DS, EL	9:45 AM–3:50 PM	Air temp: 67°F–75°F; ground temp: 65°F–70°F; 0% cloud cover; 1–3 mph wind; clear	Survey included area 4
	4 (Portion)	2018-04-03	DS, EL	9:30 AM–4:00 PM	Air temp: 62°F–78°F; ground temp: 62°F–78°F; 0%–10% cloud cover; 0–4 mph wind; clear	Survey included area 4
	4 (Finish)	2018-04-05	MM	9:13 AM–4:05 PM	Air temp: 64°F–73.5°F; ground temp: 65°F–74°F; 10%–20% cloud cover; 2–8 mph wind; clear to patchy	Survey included area 9
	5	2018-04-10	DS	8:30 AM–4:30 PM	Air temp: 70°F–83°F; ground temp: 62°F–78°F; 0% cloud cover; 1–16 mph wind; clear	

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Schedule of Focused Quino Checkerspot Butterfly Surveys

Survey Area	Survey Pass	Survey Date	Biologist	Survey Time	Conditions	Notes
	6	2018-04-24	EL	8:45 AM–3:42 PM	Air temp: 66°F–73°F; ground temp: 65°F–74°F; 10%–30% cloud cover; 1–8 mph wind; clear to patchy	
	7	2018-05-03	JP	8:45 AM–4:35 PM	Air temp: 54°F–58°F; ground temp: 54°F–57°F; 0% cloud cover; 3–10 mph wind	
	8	2018-05-09	JP	8:45 AM–5:00 PM	Air temp: 74°F–86°F; ground temp: 70°F–88°F; 0%–20% cloud cover; 0–8 mph wind	
	9	2018-05-14	JP	8:50 AM–5:05 PM	Air temp: 62°F–70°F; ground temp: 64°F–73°F; 0% cloud cover; 0–10 mph wind	
	10	2018-05-17	JP	8:45 AM–5:00 PM	Air temp: 62°F–68°F; ground temp: 62°F–72°F; 0% cloud cover; 0–15 mph wind	
4	1	2018-03-13	DB, MB	1:10 PM–4:00 PM	Air temp: 70°F; ground temp: 70°F; 100% cloud cover; 1–7 mph wind; overcast	
	2	2018-03-20	DB, MB	1:00 PM–4:15 PM	Air temp: 70°F–74°F; ground temp: 72°F–78°F; 20% cloud cover; 3–6 mph wind; patchy	
	3	2018-03-29	DS, EL	9:45 AM–3:50 PM	Air temp: 67°F–75°F; ground temp: 65°F–70°F; 0% cloud cover; 1–3 mph wind; clear	Survey included area 3
	4	2018-04-03	DS, EL	9:30 AM–4:00 PM	Air temp: 62°F–78°F; ground temp: 62°F–78°F; 0%–10% cloud cover; 0–4 mph wind; clear	Survey included area 3
	5	2018-04-18	EB	8:30 AM–4:24 PM	Air temp: 67°F–74°F; ground temp: 67.5°F–75°F; 0% cloud cover; 0–2 mph wind; clear	
	6	2018-04-20	EL	9:40 AM–4:30 PM	Air temp: 60°F–75°F; ground temp: 60°F–75°F; 0% cloud cover; 1–9 mph wind; clear	
	7	2018-04-27	DB, EL	8:45 AM–3:30 PM	Air temp: 71°F–78°F; ground temp: 69°F–82°F; 0% cloud cover; 1–15 mph wind; clear	Survey included area 1
	8	2018-05-08	JP	8:45 AM–4:15 PM	Air temp: 76°F–84°F; ground temp: 70°F–88°F; 40%–60% cloud cover; 2–6 mph wind	

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Survey Area	Survey Pass	Survey Date	Biologist	Survey Time	Conditions	Notes
	9	2018-05-15	JP	8:40 AM–3:25 PM	Air temp: 60°F–76°F; ground temp: 65°F–78°F; 0% cloud cover; 2–8 mph wind	
	10	2018-05-18	DS, EL, MM	8:45 AM–4:15 PM	Air temp: 60°F–69°F; ground temp: 63°F–79°F; 0% cloud cover; 2–8 mph wind; clear	Survey included areas 6, 8, 10
5	1	2018-03-13	DB, MB	10:15 AM–1:10 PM	Air temp: 68°F–70°F; ground temp: 68°F–70°F; 100% cloud cover; 1–7 mph wind; overcast	
	2	2018-03-21	MM	9:30 AM–3:48 PM	Air temp: 67°F–70°F; ground temp: 67°F; 50%–60% cloud cover; 1–4 mph wind; patchy	
	3	2018-03-29	MM	9:20 AM–4:10 PM	Air temp: 72°F–78°F; ground temp: 72°F–82°F; 0% cloud cover; 1–4 mph wind; clear	
	4	2018-04-04	DS	9:20 AM–4:00 PM	Air temp: 73°F–83°F; ground temp: 71.1°F–85°F; 10% cloud cover; 0–5 mph wind; clear to patchy	
	5	2018-04-11	DS	9:00 AM–2:00 PM	73°F–83°F; 0%–20% cloud cover; 1–14 mph wind; clear to patchy	
	6	2018-04-20	CA	9:00 AM–4:07 PM	Air temp: 62.6°F–73°F; ground temp: 66°F–76°F; 0% cloud cover; 0–3 mph wind; clear	
	7	2018-04-26	JP	8:50 AM–3:05 AM	Air temp: 69°F–80°F; ground temp: 70°F–84°F; 30%–50% cloud cover; 0–10 mph wind	
	8	2018-05-09	DS	8:45 AM–3:30 PM	Air temp: 77°F–95°F; ground temp: 79°F–98°F; 0% cloud cover; 0–4 mph wind; clear	
	9	2018-05-14	AH	8:45 AM–3:42 PM	Air temp: 63°F–74°F; ground temp: 64°F–76°F	
	10	2018-05-17	DS	8:45 AM–3:27 PM	Air temp: 63°F–64°F; ground temp: 65°F–73°F; 0% cloud cover; 0–13 mph wind; clear	
6	1	2018-03-20	PL	9:15 AM–4:30 PM	Air temp: 61°F–70°F; ground temp: 61°F–69°F; 10%–30% cloud cover; 0–6 mph wind; clear to patchy	

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Schedule of Focused Quino Checkerspot Butterfly Surveys

Survey Area	Survey Pass	Survey Date	Biologist	Survey Time	Conditions	Notes
	2	2018-03-28	JP, DS	9:37 AM–1:35 PM	Air temp: 66°F–72°F; ground temp: 65°F–70°F; 0% cloud cover; 1–12 mph wind	
	3	2018-03-30	JP	9:40 AM–4:00 PM	Air temp: 74°F–82°F; ground temp: 68°F–82°F; 0%–70% cloud cover; 2–12 mph wind	
	4	2018-04-03	JP	11:00 AM–5:45 PM	Air temp: 68°F–70°F; ground temp: 68°F–72°F; 30% cloud cover; 3–12 mph wind	
	5	2018-04-09	JP	8:30 AM–3:15 AM	Air temp: 72°F–78°F; ground temp: 68°F–82°F; 0%–30% cloud cover; 2–10 mph wind; clear	
	6	2018-04-18	EL	8:45 AM–3:30 PM	Air temp: 63°F–87°F; ground temp: 62°F–85°F; 0%–30% cloud cover; 5–7 mph wind; clear to patchy	
	7	2018-04-25	DB	8:40 AM–3:20 PM	Air temp: 69°F–81°F; ground temp: 71°F–87°F; 0% cloud cover; 1–10 mph wind; clear	
	8	2018-05-10	DS, MM	9:09 AM–4:30 PM	74°F–88°F; 0%–10% cloud cover; 2–7 mph wind; clear	Survey included area 7
	9	2018-05-15	PS	9:00 AM–2:46 PM	Air temp: 64°F–78°F; ground temp: 64°F–81°F; 0%–10% cloud cover; 0–5 mph wind; clear	
	10	2018-05-18	DS, EL, MM	8:45 AM–4:15 PM	Air temp: 60°F–69°F; ground temp: 63°F–79°F; 0% cloud cover; 2–8 mph wind; clear	Survey included areas 4, 8, 10
7	1 (Portion)	2018-03-12	JP	1:10 PM–4:30 PM	Air temp: 70°F–72°F; ground temp: 68°F–70°F; 40%–70% cloud cover; 1–6 mph wind	
	1 (Finish)	2018-03-13	JP	1:00 PM–5:00 AM	Air temp: 67°F–70°F; ground temp: 70°F–74°F; 100% cloud cover; 2–8 mph wind; overcast	
	2	2018-03-20	JP, TW	9:20 AM–2:00 PM	Air temp: 64°F–74°F; ground temp: 60°F–76°F; 0%–50% cloud cover; 1–5 mph wind; clear	
	3	2018-03-30	DS	9:30 AM–4:00 PM	Air temp: 71°F–78°F; ground temp: 74°F–80°F; 0% cloud cover; 1–8 mph wind; clear	

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Schedule of Focused Quino Checkerspot Butterfly Surveys

Survey Area	Survey Pass	Survey Date	Biologist	Survey Time	Conditions	Notes
	4	2018-04-04	JP	9:15 AM–4:15 PM	Air temp: 68°F–74°F; ground temp: 64°F–76°F; 10%–30% cloud cover; 1–9 mph wind	
	5	2018-04-10	JP	8:30 AM–3:15 PM	Air temp: 67°F–86°F; ground temp: 63°F–92°F; 10%–40% cloud cover; 0–6 mph wind	
	6	2018-04-18	DS	9:00 AM–3:35 PM	Air temp: 63°F–69°F; ground temp: 63°F–71°F; 0% cloud cover; clear	
	7	2018-04-24	DB	8:45 AM–3:20 PM	Air temp: 67°F–84°F; ground temp: 65°F–88°F; 10%–20% cloud cover; 0–8 mph wind; patchy	
	8	2018-05-08	DS, EL	8:45 AM–4:15 PM	Air temp: 75°F–88°F; ground temp: 71°F–92°F; 0% cloud cover; 1–8 mph wind; clear	Survey included area 2
	9	2018-05-10	DS, MM	9:09 AM–4:30 PM	Air temp: 72°F–85°F; ground temp: 74°F–88°F; 0%–10% cloud cover; 2–7 mph wind; clear	Survey included area 6
	10	2018-05-15	EL	8:40 AM–3:10 PM	Air temp: 64°F–78°F; ground temp: 64°F–85°F; 0% cloud cover; 1–12 mph wind; clear	
8	1	2018-03-12	MB	9:30 AM–3:50 PM	Air temp: 62°F–73°F; ground temp: 65°F–75°F; 10%–60% cloud cover; 1–3 mph wind; patchy	
	2 (Portion)	2018-03-20	JP, TW	2:00 PM–4:00 PM	Air temp: 72°F–74°F; ground temp: 72°F–76°F; 50% cloud cover; 1–6 mph wind	
	2 (Finish)	2018-03-21	JP	10:30 AM–3:15 PM	Air temp: 72°F–76°F; ground temp: 70°F–78°F; 80%–90% cloud cover; 1–8 mph wind	
	3	2018-03-30	MM	9:28 AM–3:22 PM	Air temp: 83°F–84°F; ground temp: 82°F–87°F; 0%–70% cloud cover; 1–4 mph wind; clear to overcast	
	4	2018-04-16	DB, MB	9:30 AM–1:10 PM	Air temp: 54°F–66°F; ground temp: 62°F–66°F; 20% cloud cover; 9–19 mph wind; patchy	
	5	2018-04-20	DS	9:10 AM–3:40 PM	Air temp: 61°F–76°F; ground temp: 63°F–76°F; 0% cloud cover; 1–7 mph wind; clear	

Table 1
Schedule of Focused Quino Checkerspot Butterfly Surveys

Survey Area	Survey Pass	Survey Date	Biologist	Survey Time	Conditions	Notes
	6	2018-04-23	DB, MB	8:45 AM–3:15 PM	Air temp: 73°F–86°F; ground temp: 75°F–88°F; 0%–30% cloud cover; 1–10 mph wind; clear to patchy	Survey included area 10
	7	2018-04-27	EB	8:30 AM–4:33 PM	Air temp: 66°F–75°F; ground temp: 67°F–78°F; 0% cloud cover; 0–1 mph wind; clear	
	8	2018-05-03	EL, MB	12:17 PM–4:00 PM	Air temp: 73°F–79°F; ground temp: 71°F–83°F; 0% cloud cover; 3–8 mph wind; clear	
	9	2018-05-14	EL, MB	8:45 AM–3:30 PM	Air temp: 62°F–70°F; ground temp: 62°F–82°F; 0% cloud cover; 2–12 mph wind; clear	Survey included area 9
	10	2018-05-18	DS, EL, MM	8:45 AM–4:15 PM	Air temp: 60°F–69°F; ground temp: 63°F–79°F; 0% cloud cover; 2–8 mph wind; clear	Survey included areas 4, 6, 10
9	1	2018-03-19	DB, DS	11:15 AM–1:00 PM	Air temp: 60°F–66°F; ground temp: 60°F–66°F; 10%–20% cloud cover; 4–10 mph wind; clear	
	2	2018-03-21	DS	9:35 AM–4:35 PM	Air temp: 64°F–73°F; ground temp: 62.2°F–73°F; 20%–40% cloud cover; 1–5 mph wind; patchy	
	3	2018-03-28	CA	9:07 AM–3:53 PM	Air temp: 63°F–66°F; ground temp: 65°F–69°F; 0% cloud cover; 0–4 mph wind; clear	
	4	2018-04-02	DB, EL	9:40 AM–4:00 PM	Air temp: 56°F–62°F; ground temp: 61°F–62°F; 10% cloud cover; 5–9 mph wind; clear	Survey included area 10
	5	2018-04-11	CA	8:15 AM–3:43 PM	Air temp: 78°F–79°F; ground temp: 70°F–79°F; 0%–10% cloud cover; 0–2 mph wind; clear	
	6	2018-04-17	DB, DS, EL, MB	9:45 AM–2:30 PM	Air temp: 58°F–60°F; ground temp: 62°F–63°F; 0% cloud cover; 3–16 mph wind; clear	Survey included area 10
	7	2018-04-24	DS	8:50 AM–3:25 PM	Air temp: 72°F–87°F; ground temp: 72°F–89°F; 20%–30% cloud cover; 0–2 mph wind; patchy	

Table 1
Schedule of Focused Quino Checkerspot Butterfly Surveys

Survey Area	Survey Pass	Survey Date	Biologist	Survey Time	Conditions	Notes
	8	2018-05-04	EL	11:20 AM–4:20 PM	Air temp: 78°F–86°F; ground temp: 82°F–88°F; 0% cloud cover; 2–8 mph wind; clear	
	9	2018-05-14	EL, MB	8:45 AM–3:30 PM	Air temp: 62°F–70°F; ground temp: 62°F–82°F; 0% cloud cover; 2–12 mph wind; clear	Survey included area 8
	10	2018-05-18	JP	8:30 AM–4:05 PM	Air temp: 55°F–58°F; ground temp: 56°F–60°F; 0% cloud cover; 1–8 mph wind	
10	1 (Portion)	2018-03-13	EL	9:59 AM–3:33 PM	Air temp: 66°F; ground temp: 63°F–66°F; 100% cloud cover; 0–1 mph wind; overcast	
	1 (Finish)	2018-03-19	DB, DS	1:15 PM–4:00 PM	Air temp: 66°F; ground temp: 66°F; 10% cloud cover; 4–8 mph wind; clear to patchy	
	2	2018-03-20	DS	9:50 AM–3:15 PM	Air temp: 66°F–76°F; ground temp: 63°F–74°F; 0%–40% cloud cover; 1–8 mph wind; clear to patchy	
	3	2018-03-29	JP	9:15 AM–3:30 PM	Air temp: 68°F–77°F; ground temp: 66°F–78°F; 0% cloud cover; 0–8 mph wind	
	4	2018-04-02	DB, EL	9:40 AM–4:00 PM	Air temp: 56°F–62°F; ground temp: 61°F–62°F; 10% cloud cover; 5–9 mph wind; clear	Survey included area 9
	5	2018-04-17	DB, DS, EL, MB	9:45 AM–2:30 PM	Air temp: 58°F–60°F; ground temp: 62°F–63°F; 0% cloud cover; 3–16 mph wind; clear	Survey included area 9
	6	2018-04-17	DB, DS, EL, MB	9:45 AM–2:30 PM	Air temp: 58°F–60°F; ground temp: 62°F–63°F; 0% cloud cover; 3–16 mph wind; clear	Survey included area 9
	7	2018-05-03	EL, MB	9:41 AM–12:13 PM	Air temp: 63°F–73°F; ground temp: 63°F–71°F; 0% cloud cover; 4–8 mph wind; clear	
	8	2018-05-07	DB	8:45 AM–3:03 PM	Air temp: 73°F–86°F; ground temp: 73°F–89°F; 0%–10% cloud cover; 1–8 mph wind; clear	
	9	2018-05-10	EL	8:45 AM–3:00 PM	Air temp: 78°F–88°F; ground temp: 74°F–89°F; 0% cloud cover; 2–12 mph wind; clear	

Table 1
Schedule of Focused Quino Checkerspot Butterfly Surveys

Survey Area	Survey Pass	Survey Date	Biologist	Survey Time	Conditions	Notes
	10	2018-05-16	EL	8:40 AM–3:00 PM	Air temp: 68°F–78°F; ground temp: 67°F–80°F; 0% cloud cover; 1–8 mph wind; clear	

AH = Anita Hayworth (TE-781084-9.1); CA = Callie Amoaku (TE-36118B-1); DB = Darin Busby (initially working under Melissa Busby's permit until permit renewal of TE-115373-4); DS = Diana Saucedo (TE-221287-1); EB = Erin Bergman (TE-813545-5); EL = David Erik LaCoste (TE-027736-6); JP = Jeffrey Priest (TE-840619-6); MB = Melissa Busby (TE-0807792-3); MF = Mackenzie Forgey; MM = Margie Mulligan (TE-88969B-0); PL = Paul Lemons (TE-051248-5); PS = Patricia Schuyler (TE-27502B-1); SC = Shana Carey; TW = Tricia Wotipka (TE-840619-2).

RESULTS

No Quino were observed during the 2018 focused surveys. In total, 55 butterfly species were observed during the surveys. The weeks in which these butterflies were observed are shown in Tables 2A and 2B.

Table 2A
Butterflies Observed on Site Weeks 1–5

Scientific Name	Common Name	Week				
		1	2	3	4	5
Hesperiidae – Skippers						
Erynnis afranius	Afranius duskywing	—	X	—	—	—
Erynnis brizo	sleepy duskywing	—	X	—	X	X
Erynnis funeralis	funereal duskywing	X	X	X	X	X
Erynnis propertius	Propertius duskywing	X	X	X	X	X
Hylephila phyleus	fiery skipper	—	X	—	—	—
Pholisora catullus	common sootywing	—	—	—	—	X
	duskywing sp.	—	X	—	—	—
Nymphalidae – Brush-Footed Butterflies						
Adelpha bredowii	California sister	—	—	—	—	X
Chlosyne californica	California patch	—	—	—	—	X
Chlosyne gabbii	Gabb's checkerspot	—	—	—	—	—
Coenonympha tullia californica	common California ringlet	X	X	—	—	—
Danaus gilippus	queen	—	—	—	—	—
Euphydryas chalcedona chalcedona	chalcedon variable checkerspot	—	—	—	X	X
Euphydryas chalcedona	variable checkerspot	—	—	—	—	X
Junonia coenia	common buckeye	—	—	—	—	—
Limenitis lorquini	Lorquin's admiral	—	—	—	—	—
Nymphalis antiopa	mourning cloak	—	—	—	—	X

Table 2A
Butterflies Observed on Site Weeks 1–5

Scientific Name	Common Name	Week				
		1	2	3	4	5
<i>Nymphalis californica</i>	California tortoiseshell	X	X	X	X	X
<i>Phyciodes mylitta</i>	Mylitta crescent	—	—	—	—	X
<i>Vanessa annabella</i>	west coast lady	—	—	—	X	—
<i>Vanessa atalanta</i>	red admiral	—	—	X	—	—
<i>Vanessa cardui</i>	painted lady	X	X	—	—	—
<i>Lycaenidae – Blues and Hairstreaks</i>						
<i>Atlides halesus</i>	great purple hairstreak	—	—	—	—	—
<i>Brephidium exile</i>	western pygmy-blue	—	X	X	—	—
<i>Callophrys augustinus</i>	brown elfin	X	X	X	X	X
<i>Callophrys dumetorum</i>	bramble hairstreak	X	X	X	X	X
<i>Celastrina ladon [argiolus] echo</i>	echo blue	X	X	X	X	X
<i>Euphilotes battoides bernardino</i>	Bernardino square-spotted blue	—	—	—	—	—
<i>Everes amyntula</i>	western tailed-blue	—	—	—	X	—
<i>Glaucopsyche lygdamus australis</i>	southern blue	X	X	X	X	X
<i>Hemiargus ceraunus gyas</i>	Edward's blue	—	—	—	—	X
<i>Icaricia acmon acmon</i>	Acmon blue	X	X	X	X	X
<i>Leptotes marina</i>	marine blue	—	—	—	—	—
<i>Lycaeides melissa</i>	Melissa blue	—	—	—	—	—
<i>Lycaena gorgon</i>	Gorgon copper	—	—	—	—	—
<i>Philotes sonorensis</i>	Sonoran blue	—	—	—	—	—
<i>Satyrrium saepium</i>	hedgerow hairstreak	—	—	—	—	—
<i>Strymon melinus</i>	gray hairstreak	—	—	—	—	—
	blue sp.	—	—	—	—	—
<i>Papilionidae – Swallowtails</i>						
<i>Papilio eurymedon</i>	pale swallowtail	X	X	X	X	X
<i>Papilio rutulus</i>	western tiger swallowtail	X	X	—	X	—
<i>Papilio zelicaon</i>	anise swallowtail	X	—	X	X	X
<i>Pieridae – Whites and Sulfurs</i>						
<i>Anthocharis cethura</i>	desert orangetip	—	X	X	X	X
<i>Anthocharis sara</i>	Pacific Sara orangetip	X	X	X	X	X
<i>Colias eurytheme</i>	orange sulphur	—	—	X	—	X
<i>Colias harfordii</i>	Harford's sulphur	—	—	—	—	—
<i>Copaeodes aurantiacus</i>	orange skipperling	—	—	—	—	—
<i>Euchloe hyantis lotta</i>	desert pearly marble	X	X	X	X	X
<i>Philotes sonorensis</i>	cloudless sulphur	—	—	X	—	X
<i>Pieris rapae</i>	cabbage white	—	—	—	X	—
<i>Pontia protodice</i>	checkered white	X	X	X	—	X

Table 2A
Butterflies Observed on Site Weeks 1–5

Scientific Name	Common Name	Week				
		1	2	3	4	5
<i>Pontia sisymbrii</i>	spring white	X	X	X	X	X
	sulphur sp.	—	X	—	X	—
	white sp.	—	—	—	—	X
<i>Riodinidae – Metalmarks</i>						
<i>Apodemia virgulti</i>	Behr's metalmark	X	X	X	X	X

Table 2B
Butterflies Observed on Site Weeks 6–10

Scientific Name	Common Name	Week				
		6	7	8	9	10
Hesperiidae – Skippers						
Erynnis afranius	Afranius duskywing	—	—	—	—	—
Erynnis brizo	sleepy duskywing	X	—	—	—	—
Erynnis funeralis	funereal duskywing	X	X	X	X	X
Erynnis propertius	Propertius duskywing	X	X	X	X	X
Hylephila phyleus	fiery skipper	—	—	X	—	X
Pholisora catullus	common sootywing	X	X	—	X	—
	duskywing sp.	—	X	—	—	—
Nymphalidae – Brush-Footed Butterflies						
Adelpha bredowii	California sister	—	X	X	X	X
Chlosyne californica	California patch	—	X	X	—	—
Chlosyne gabbii	Gabb's checkerspot	X	X	X	X	X
Coenonympha tullia californica	common California ringlet	—	X	X	—	—
Danaus gilippus	queen	—	—	X	—	—
Euphydryas chalcedona chalcedona	chalcedon variable checkerspot	X	X	X	X	X
Euphydryas chalcedona	variable checkerspot	X	—	X	—	X
Junonia coenia	common buckeye	—	—	X	—	—
Limenitis lorquini	Lorquin's admiral	—	X	X	X	—
Nymphalis antiopa	mourning cloak	—	—	—	—	—
Nymphalis californica	California tortoiseshell	X	—	—	—	—
Phyciodes mylitta	Mylitta crescent	—	—	—	—	—
Vanessa annabella	west coast lady	—	—	—	—	—
Vanessa atalanta	red admiral	—	—	—	—	—
Vanessa cardui	painted lady	X	—	X	—	—

Table 2B
Butterflies Observed on Site Weeks 6–10

Scientific Name	Common Name	Week				
		6	7	8	9	10
Lycaenidae – Blues and Hairstreaks						
<i>Atlides halesus</i>	great purple hairstreak	X	—	—	—	—
<i>Brephidium exile</i>	western pygmy-blue	—	—	—	X	X
<i>Callophrys augustinus</i>	brown elfin	X	X	X	X	X
<i>Callophrys dumetorum</i>	bramble hairstreak	X	X	X	—	—
<i>Celastrina ladon [argiolus] echo</i>	echo blue	X	X	X	—	X
<i>Euphilotes battoides bernardino</i>	Bernardino square-spotted blue	—	—	X	X	X
<i>Everes amyntula</i>	western tailed-blue	X	X	X	X	—
<i>Glaucopsyche lygdamus australis</i>	southern blue	X	—	X	—	—
<i>Hemiargus ceraunus gyas</i>	Edward’s blue	v	X	X	X	X
<i>Icaricia acmon acmon</i>	Acmon blue	X	X	X	X	X
<i>Leptotes marina</i>	marine blue	X	X	X	X	X
<i>Lycaeides melissa</i>	Melissa blue	—	—	—	X	X
<i>Lycaena gorgon</i>	Gorgon copper	—	—	—	—	X
<i>Philotes sonorensis</i>	Sonoran blue	—	—	X	—	—
<i>Satyrrium saepium</i>	hedgerow hairstreak	—	—	—	X	—
<i>Strymon melinus</i>	gray hairstreak	—	—	—	X	—
	blue sp.	X	—	—	—	—
Papilionidae – Swallowtails						
<i>Papilio eurymedon</i>	pale swallowtail	X	X	X	X	X
<i>Papilio rutulus</i>	western tiger swallowtail	X	—	X	—	—
<i>Papilio zelicaon</i>	anise swallowtail	—	—	X	—	—
Pieridae – Whites and Sulfurs						
<i>Anthocharis cethura</i>	desert orangetip	X	X	—	X	—
<i>Anthocharis sara</i>	Pacific Sara orangetip	X	X	X	X	—
<i>Colias eurytheme</i>	orange sulphur	X	X	X	X	X
<i>Colias harfordii</i>	Harford’s sulphur	—	—	X	X	X
<i>Copaeodes aurantiacus</i>	orange skipperling	—	—	—	—	X
<i>Euchloe hyantis lotta</i>	desert pearly marble	X	X	X	X	—
<i>Philotes sonorensis</i>	cloudless sulphur	—	—	X	—	—
<i>Pieris rapae</i>	cabbage white	v	X	—	X	—
<i>Pontia protodice</i>	checkered white	X	X	X	—	X
<i>Pontia sisymbrii</i>	spring white	X	X	X	X	—
	sulphur sp.	X	—	—	—	—
	white sp.	X	X	—	—	—
Riodinidae – Metalmarks						
<i>Apodemia virgulti</i>	Behr’s metalmark	X	X	X	X	X

No Quino host plants were observed within the survey areas. Table 3 includes the known and observed adult Quino nectar plants (according to Mattoni et al. 1997; USFWS 2002, 2003; 67 FR 18355–18395). Larval host plants are also included in Table 3 and are in bold print. All plant species that were in bloom were documented in the field notes.

Table 3
Quino Adult Nectar Plants and Larval Food Plants

Scientific Name	Common Name	Observed During Focused Survey
<i>Apiaceae – Carrot Family</i>		
<i>Lomatium dasycarpum</i> ssp. <i>dasycarpum</i>	woolly-fruit lomatium	—
<i>Lomatium utriculatum</i>	common lomatium	—
<i>Asteraceae – Sunflower Family</i>		
<i>Achillea millefolium</i>	common yarrow, milfoil	—
<i>Lasthenia californica</i> or <i>Lasthenia gracilis</i>	common goldfields	X
<i>Lasthenia coronaria</i>	southern goldfields	X
<i>Layia platyglossa</i>	coastal tidytips, common tidytips	—
<i>Boraginaceae – Borage Family</i>		
<i>Amsinckia menziesii</i>	Menzies' fiddleneck, rancher's fireweed	X
<i>Amsinckia menziesii</i> var. <i>intermedia</i>	rancher's fiddleneck	—
<i>Amsinckia menziesii</i> var. <i>menziesii</i>	rigid fiddleneck	—
<i>Cryptantha</i> spp. or <i>Plagiobothrys</i> spp.	popcorn flower	X
<i>Phacelia distans</i>	distant phacelia, wild-heliotrope	—
<i>Fabaceae – Pea Family</i>		
<i>Acmispon</i> (=Lotus) spp.	deerweed, spanishclover, lotus	X
<i>Hydrophyllaceae – Waterleaf Family</i>		
<i>Eriodictyon crassifolium</i> var. <i>crassifolium</i>	thickleaf yerba santa	—
<i>Eriodictyon trichocalyx</i> var. <i>trichocalyx</i>	hairy yerba santa	—
<i>Lamiaceae – Mint Family</i>		
<i>Salvia columbariae</i>	chia	X
<i>Plantaginaceae – Plantain Family</i>		
<i>Antirrhinum coulterianum</i>	Coulter's snapdragon	—
<i>Collinsia</i> sp.	Chinese houses	—
<i>Keckiella antirrhinoides</i> var. <i>antirrhinoides</i>	snapdragon penstemon	—
<i>Keckiella cordifolia</i>	heartleaf keckiella, climbing bush penstemon	—
<i>Plantago erecta</i>	dwarf plantain	—
<i>Plantago patagonica</i>	woolly plantain	—
<i>Polemoniaceae – Phlox Family</i>		
<i>Gilia angelensis</i>	grassland gilia	—
<i>Gilia capitata</i> ssp. <i>abrotanifolia</i>	ball gilia	—
<i>Linanthus</i> spp.	ground pink	X

Recovery Permit Coordinator

Subject: 2018 Focused Quino Checkerspot Butterfly Survey Report for the Campo Wind Project, Campo, San Diego County, California

Table 3
Quino Adult Nectar Plants and Larval Food Plants

Scientific Name	Common Name	Observed During Focused Survey
<i>Polygonaceae – Buckwheat Family</i>		
<i>Eriogonum fasciculatum</i>	California buckwheat	—
<i>Orobanchaceae – Broom-rape Family</i>		
<i>Castilleja exserta</i>	exserted Indian paintbrush, common owl's-clover	—
<i>Scrophulariaceae – Figwort Family</i>		
<i>Cordylanthus rigidus</i> ssp. <i>setiger</i>	stiffbranch bird's beak, dark-tipped bird's-beak	—
<i>Liliaceae – Lily Family</i>		
<i>Allium haematochiton</i>	red-skin onion	—
<i>Allium peninsulare</i>	Mexicali onion, red-flower onion	—
<i>Allium praecox</i>	early onion	—
<i>Dichelostemma capitatum</i>	bluedicks	—
<i>Muilla clevelandii</i>	San Diego goldenstar	—
<i>Muilla maritima</i>	sea muilla, common muilla	—

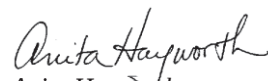
Sources: Mattoni et al. 1997; USFWS 2002, 2003; 67 FR 18355–18395 (for *Euphydryas editha*).

Note: Plants listed in **bold** print are known Quino larval host plant species.

Dudek certifies that the information in this survey report and attached figures and appendices fully and accurately represents the work conducted by the Quino-permitted biologists who conducted this focused survey.

Please feel free to contact Brock Ortega at bortega@dudek.com or Callie Amoaku at cford@dudek.com if you have any questions regarding the contents of this report.

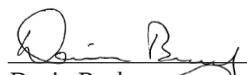
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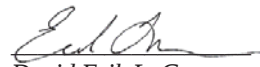
Anita Hayworth
Permit #TE-781084-9.1



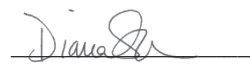
Callie Amoaku
Permit #TE-36118B-1



Darin Busby
Permit #TE-115373-4



David Erik LaCoste
Permit #TE-027736-6



Diana Saucedo
Permit #TE-221287-1



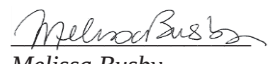
Erin Bergman
Permit #TE-813545-5



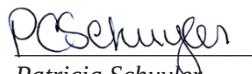
Jeffrey Priest
Permit #TE-840619-6



Margie Mulligan
Permit #TE-88969B-0



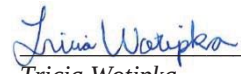
Melissa Busby
Permit #TE-0807792-3



Patricia Schuyler
Permit #TE-27502B-1



Paul Lemons
Permit #TE-051248-5



Tricia Wotipka
Permit #TE-840619-6

Recovery Permit Coordinator

Subject: 2018 Focused Quino Checkerspot Butterfly Survey Report for the Campo Wind Project, Campo, San Diego County, California

Att: Figure 1, Survey Results – Index

Figure 2, Survey Results

Figure 3, Survey Results

Figure 4, Survey Results

Figure 5, Survey Results

Figure 6, Survey Results

Appendix A – List of Wildlife Species Observed during the 2018 Campo Wind Project Quino Survey

Appendix B – 2018 Campo Wind Project Quino Survey Field Notes

CC: Brock Ortega, Dudek

Matthew Valerio, Dudek

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Recovery Permit Coordinator

Subject: 2018 Focused Quino Checkerspot Butterfly Survey Report for the Campo Wind Project, Campo, San Diego County, California

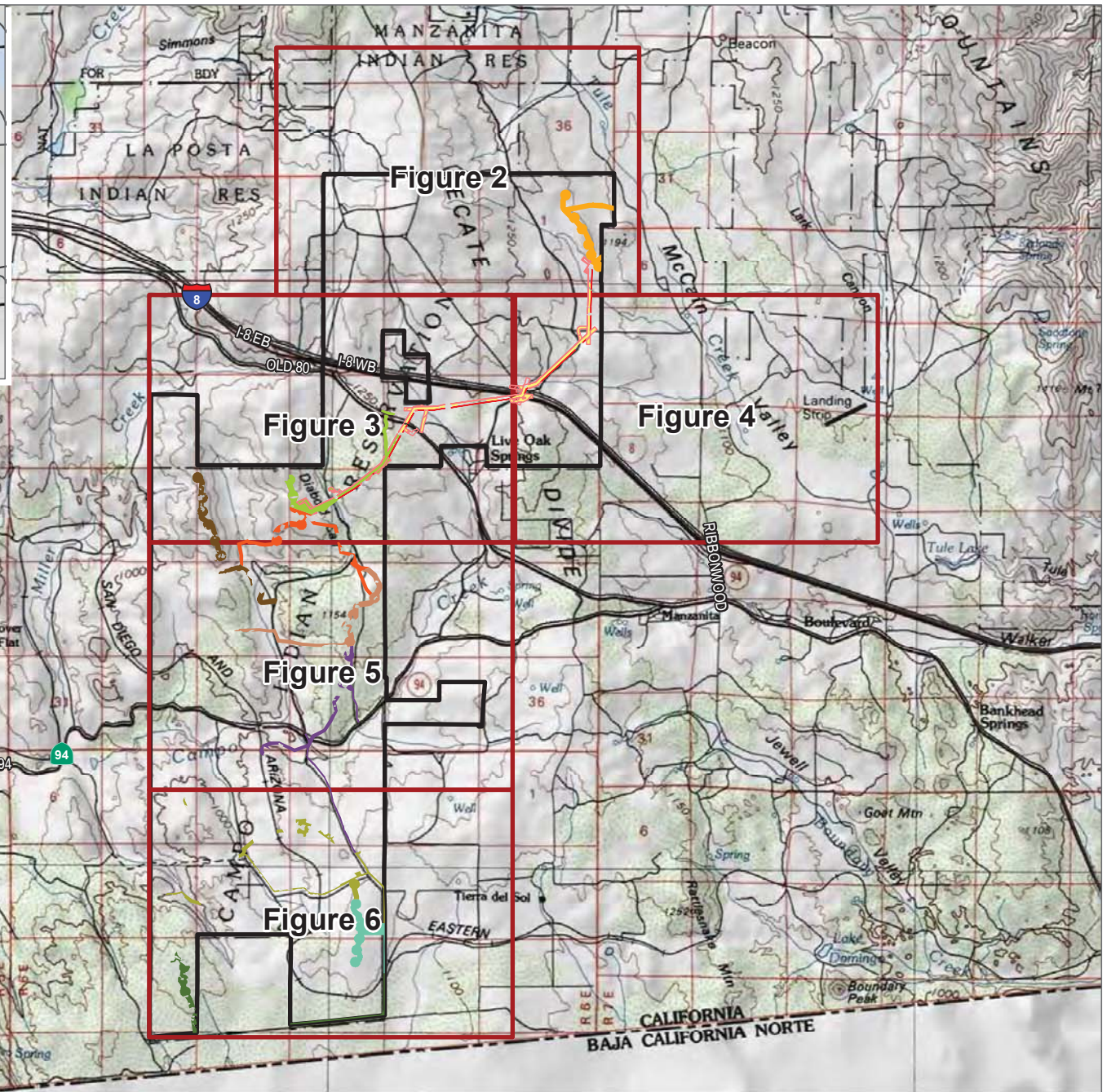
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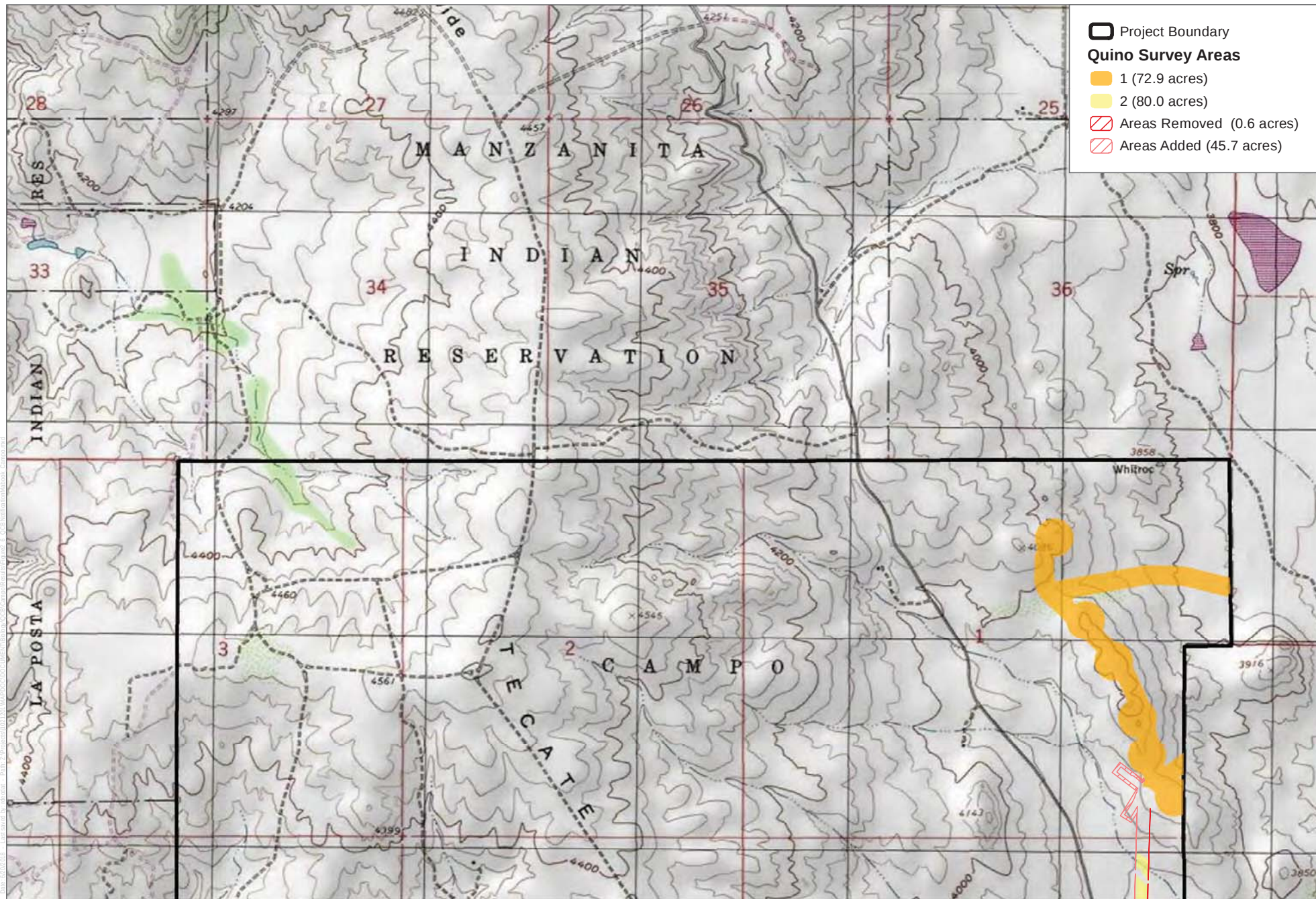
- Project Boundary**
- Quino Survey Areas**
- 1 (72.9 acres)
 - 2 (80.0 acres)
 - 3 (81.6 acres)
 - 4 (67.3 acres)
 - 5 (67.2 acres)
 - 6 (66.5 acres)
 - 7 (66.4 acres)
 - 8 (67.3 acres)
 - 9 (67.6 acres)
 - 10 (61.8 acres)
 - Areas Removed (0.6 acres)
 - Areas Added (45.7 acres)

SOURCE: USGS 2018

FIGURE 1

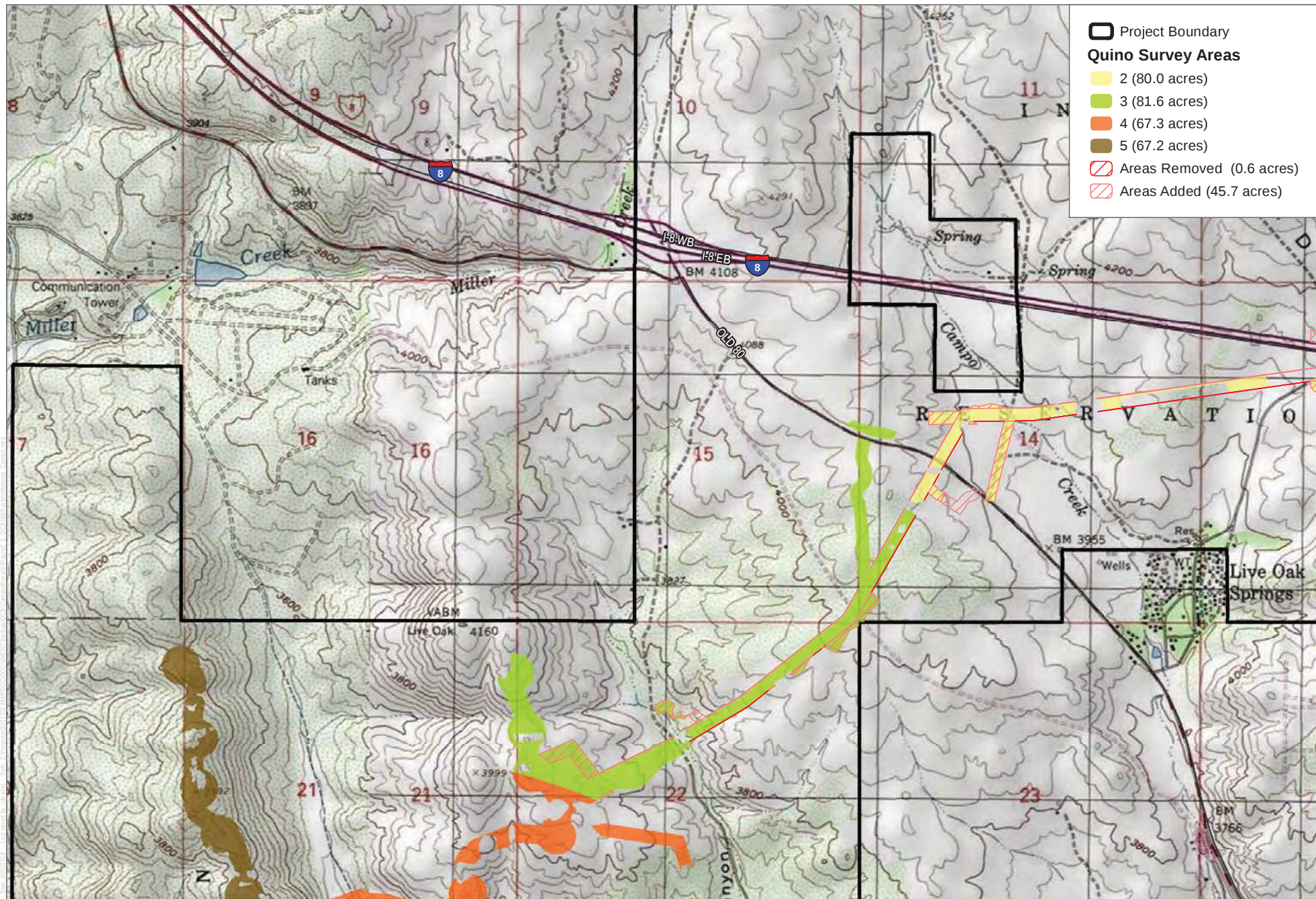
Survey Results - Index

Campo Wind Project - Results of 2018 Quino Checkerspot Survey



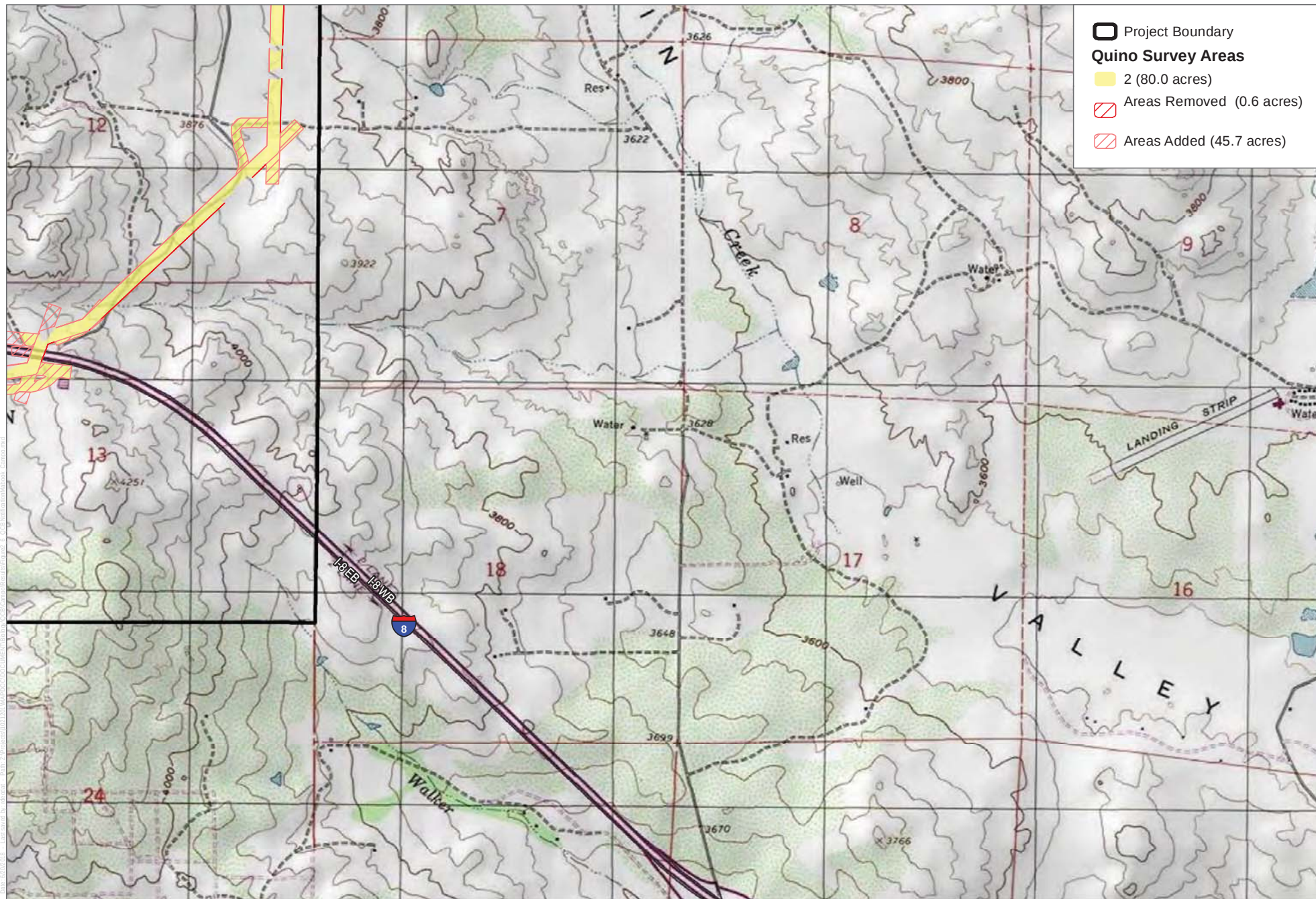
SOURCE: USGS 2018

FIGURE 2
Survey Results



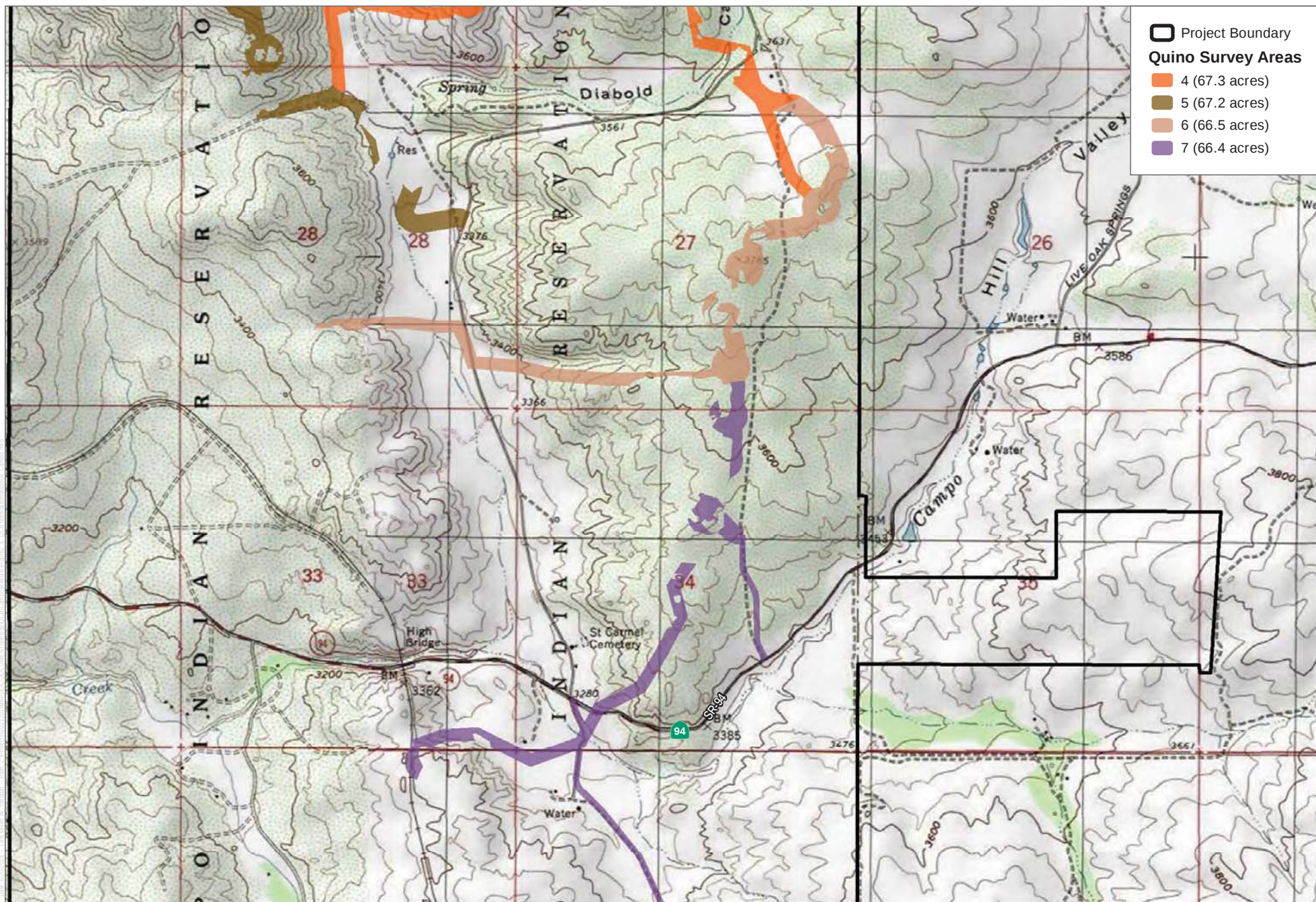
SOURCE: USGS 2018

FIGURE 3
Survey Results



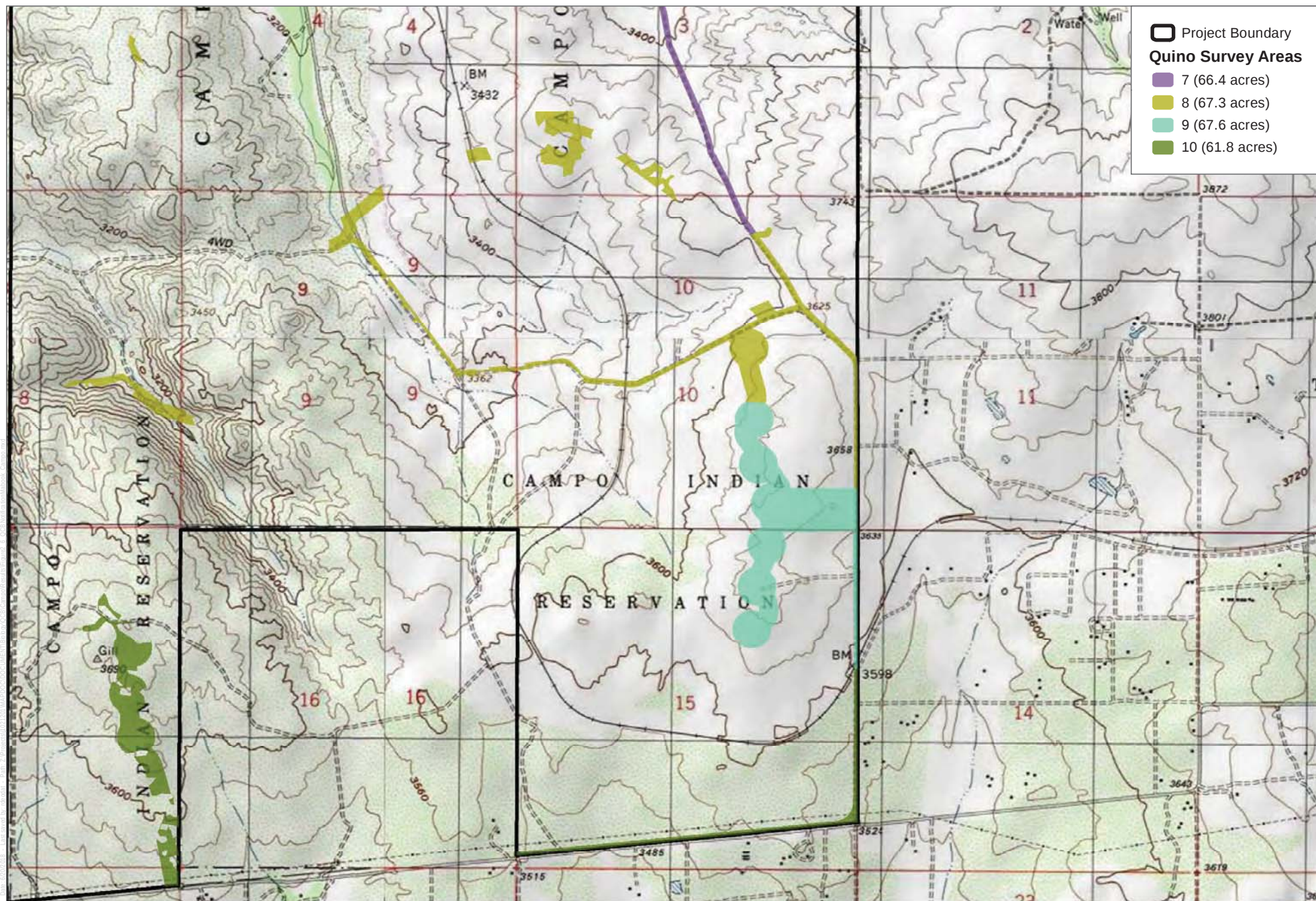
SOURCE: USGS 2018

FIGURE 4
Survey Results



SOURCE: USGS 2018

FIGURE 5
Survey Results



SOURCE: USGS 2018

FIGURE 6

Survey Results

Campo Wind Project - Results of 2018 Quino Checkerspot Survey

APPENDIX A

*List of Wildlife Species Observed during the 2018
Campo Wind Project Quino Survey*

APPENDIX A
List of Wildlife Species Observed during the 2018
Campo Wind Project Quino Survey

BIRD

BLACKBIRDS, ORIOLES, AND ALLIES

ICTERIDAE—BLACKBIRDS

Agelaius phoeniceus—red-winged blackbird

Sturnella neglecta—western meadowlark

BUSHTITS

AEGITHALIDAE—LONG-TAILED TITS AND BUSHTITS

Psaltiriparus minimus—bushtit

CARDINALS, GROSBEAKS, AND ALLIES

CARDINALIDAE—CARDINALS AND ALLIES

Pheucticus melanocephalus—black-headed grosbeak

FALCONS

FALCONIDAE—CARACARAS AND FALCONS

Falco sparverius—American kestrel

FINCHES

FRINGILLIDAE—FRINGILLINE AND CARDUELINE FINCHES AND ALLIES

Haemorrhous mexicanus—house finch

Spinus lawrencei—Lawrence's goldfinch

Spinus psaltria—lesser goldfinch

FLYCATCHERS

TYRANNIDAE—TYRANT FLYCATCHERS

Myiarchus cinerascens—ash-throated flycatcher

Sayornis saya—Say's phoebe

Tyrannus verticalis—western kingbird

Tyrannus vociferans—Cassin's kingbird

APPENDIX A (Continued)

GOATSUCKERS

CAPRIMULGIDAE—GOATSUCKERS

Chordeiles acutipennis—lesser nighthawk

HAWKS

ACCIPITRIDAE—HAWKS, KITES, EAGLES, AND ALLIES

Accipiter cooperii—Cooper’s hawk

Buteo jamaicensis—red-tailed hawk

Circus hudsonius—northern harrier

HUMMINGBIRDS

TROCHILIDAE—HUMMINGBIRDS

Calypte anna—Anna’s hummingbird

Calypte costae—Costa’s hummingbird

Selasphorus rufus—rufous hummingbird

JAYS, MAGPIES AND CROWS

CORVIDAE—CROWS AND JAYS

Aphelocoma californica—California scrub-jay

Corvus brachyrhynchos—American crow

Corvus corax—common raven

LARKS

ALAUDIDAE—LARKS

Eremophila alpestris—horned lark

MOCKINGBIRDS AND THRASHERS

MIMIDAE—MOCKINGBIRDS AND THRASHERS

Mimus polyglottos—northern mockingbird

Toxostoma redivivum—California thrasher

NEW WORLD QUAIL

ODONTOPHORIDAE—NEW WORLD QUAIL

Callipepla californica—California quail

APPENDIX A (Continued)

NEW WORLD VULTURES

CATHARTIDAE—NEW WORLD VULTURES

Cathartes aura—turkey vulture

NUTHATCHES

SITTIDAE—NUTHATCHES

Sitta carolinensis—white-breasted nuthatch

OLD WORLD WARBLERS AND GNATCATCHERS

SYLVIIDAE—SYLVIID WARBLERS

Poliophtila caerulea—blue-gray gnatcatcher

OWLS

STRIGIDAE—TYPICAL OWLS

Bubo virginianus—great horned owl

PIGEONS AND DOVES

COLUMBIDAE—PIGEONS AND DOVES

Zenaida macroura—mourning dove

ROADRUNNERS AND CUCKOOS

CUCULIDAE—CUCKOOS, ROADRUNNERS, AND ANIS

Geococcyx californianus—greater roadrunner

SILKY FLYCATCHERS

PTILOGONATIDAE—SILKY-FLYCATCHERS

Phainopepla nitens—phainopepla

SWALLOWS

HIRUNDINIDAE—SWALLOWS

Petrochelidon pyrrhonota—cliff swallow

Stelgidopteryx serripennis—northern rough-winged swallow

APPENDIX A (Continued)

SWIFTS

APODIDAE—SWIFTS

Aeronautes saxatalis—white-throated swift

THRUSHES

TURDIDAE—THRUSHES

Sialia mexicana—western bluebird

TITMICE

PARIDAE—CHICKADEES AND TITMICE

Baeolophus inornatus—oak titmouse

VIREOS

VIREONIDAE—VIREOS

Vireo huttoni—Hutton's vireo

WOOD WARBLERS AND ALLIES

PARULIDAE—WOOD-WARBLERS

Geothlypis trichas—common yellowthroat

WOODPECKERS

PICIDAE—WOODPECKERS AND ALLIES

Colaptes auratus—northern flicker

Melanerpes formicivorus—acorn woodpecker

Picoides nuttallii—Nuttall's woodpecker

WRENS

TROGLODYTIDAE—WRENS

Catherpes mexicanus—canyon wren

Salpinctes obsoletus—rock wren

Thryomanes bewickii—Bewick's wren

Troglodytes aedon—house wren

APPENDIX A (Continued)

WRENTITS

TIMALIIDAE—BABBLERS

Chamaea fasciata—wrentit

NEW WORLD SPARROWS

PASSERELLIDAE—NEW WORLD SPARROWS

Amphispiza bilineata—black-throated sparrow

Artemisiospiza belli—Bell’s sparrow

Artemisiospiza nevadensis—sagebrush sparrow

Melospiza crissalis—California towhee

Pipilo maculatus—spotted towhee

Spizella atrogularis—black-chinned sparrow

Spizella passerina—chipping sparrow

Zonotrichia leucophrys—white-crowned sparrow

INVERTEBRATE

BUTTERFLIES

LYCAENIDAE—BLUES, HAIRSTREAKS, AND COPPERS

Atlides halesus—great purple hairstreak

Brephidium exile—western pygmy-blue

Callophrys augustinus—brown elfin

Callophrys dumetorum—bramble hairstreak

Celastrina ladon [argiolus] echo—echo blue

Euphilotes battoides bernardino—Bernardino square-spotted blue

Everes amyntula—western tailed-blue

Glaucopsyche lygdamus australis—southern blue

Hemiargus ceraunus gyas—Edward’s blue

Icaricia acmon acmon—Acmon blue

Leptotes marina—marine blue

Lycaeides melissa—Melissa blue

Lycaena gorgon—Gorgon copper

Philotes sonorensis—Sonoran blue

Satyrrium saepium—hedgerow hairstreak

Strymon melinus—gray hairstreak

NYMPHALIDAE—BRUSH-FOOTED BUTTERFLIES

Adelpha bredowii—California sister

APPENDIX A (Continued)

Chlosyne californica—California patch
Chlosyne gabbii—Gabb’s checkerspot
Coenonympha tullia californica—common California ringlet
Danaus gilippus—queen
Euphydryas chalcedona chalcedona—chalcedon variable checkerspot
Euphydryas chalcedona—variable checkerspot
Junonia coenia—common buckeye
Limenitis lorquini—Lorquin’s admiral
Nymphalis antiopa—mourning cloak
Nymphalis californica—California tortoiseshell
Phyciodes mylitta—Mylitta crescent
Vanessa annabella—west coast lady
Vanessa atalanta—red admiral
Vanessa cardui—painted lady

RIODINIDAE—METALMARKS

Apodemia mormo virgulti—Behr’s metalmark

HESPERIIDAE—SKIPPERS

Copaeodes aurantiacus—orange skipperling
Erynnis afranius—Afranius duskywing
Erynnis brizo—sleepy duskywing
Erynnis funeralis—funereal duskywing
Erynnis propertius—Propertius duskywing
Hylephila phyleus—fiery skipper
Pholisora catullus—common sootywing

PAPILIONIDAE—SWALLOWTAILS

Papilio eurymedon—pale swallowtail
Papilio rutulus—western tiger swallowtail
Papilio zelicaon—anise swallowtail

PIERIDAE—WHITES AND SULFURS

Anthocharis cethura—desert orangetip
Anthocharis sara sara—Pacific sara orangetip
Colias eurytheme—orange sulphur
Colias harfordii—Harford’s sulphur
Euchloe hyantis lotta—desert pearly marble
Phoebis sennae—cloudless sulphur
Pieris rapae—cabbage white

APPENDIX A (Continued)

Pontia protodice—checkered white

Pontia sisymbrii—spring white

MAMMAL

CANIDS

CANIDAE—WOLVES AND FOXES

Canis latrans—coyote

CATS

FELIDAE—CATS

Lynx rufus—bobcat

HARES AND RABBITS

LEPORIDAE—HARES AND RABBITS

Lepus californicus—black-tailed jackrabbit

Sylvilagus audubonii—desert cottontail

Sylvilagus bachmani—brush rabbit

POCKET GOPHERS

GEOMYIDAE—POCKET GOPHERS

Thomomys bottae—Botta's pocket gopher

SQUIRRELS

SCIURIDAE—SQUIRRELS

Spermophilus (Otospermophilus) beecheyi—California ground squirrel

Tamias merriami—Merriam's chipmunk

UNGULATES

CERVIDAE—DEERS

Odocoileus hemionus—mule deer

APPENDIX A (Continued)

REPTILE

LIZARDS

PHRYNOSOMATIDAE—IGUANID LIZARDS

Phrynosoma blainvillii—Blainville's horned lizard

Sceloporus occidentalis—western fence lizard

Sceloporus orcutti—granite spiny lizard

Uta stansburiana—common side-blotched lizard

SCINCIDAE—SKINKS

Plestiodon skiltonianus—western skink

TEIIDAE—WHIPTAIL LIZARDS

Aspidoscelis tigris stejnegeri—San Diegan tiger whiptail

Aspidoscelis tigris—tiger whiptail

SNAKES

COLUBRIDAE—COLUBRID SNAKES

Pituophis catenifer—gophersnake

Rhinocheilus lecontei—long-nosed snake

BOIDAE—BOAS

Lichanura trivirgata—rosy boa

VIPERIDAE—VIPERS

Crotalus oreganus—western rattlesnake

APPENDIX B

*2018 Campo Wind Project Quino Survey
Field Notes*

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-03-12
Biologist(s)	Margie Mulligan
Survey Area	Tribal 1
Survey Pass	1

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	09:40:00	63	60	50	2	patchy	
Mid day	11:47:00	70	0	30	5	patchy	
End	16:08:00	73	75	20	5	patchy	

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
Behr's metalmark (2)	desert pearly marble (12)	pale swallowtail (2)
brown elfin (1)	echo blue (5)	Propertius duskywing (6)
California tortoiseshell (1)	painted lady (1)	spring white (8)

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
(none)		

INCIDENTAL PLANT LIST		
<i>Ribes quercetorum</i>		

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-03-13
Biologist(s)	Margie Mulligan
Survey Area	Tribal 2
Survey Pass	1

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	09:50:00	62	65	100	4		Walked around site
Protocol begins	10:59:00	68	70	100	2		
End	16:05:00	69	69	80	3	overcast	

BUTTERFLY LIST SPECIES (COUNT)		
bramble hairstreak (2)	California tortoiseshell (1)	Pacific sara orangetip (3)
brown elfin (1)	echo blue (1)	spring white (1)

INCIDENTAL WILDLIFE LIST SPECIES (COUNT)		
(none)		

INCIDENTAL PLANT LIST		
<i>Dendromecon rigida</i>	<i>Erodium cicutarium</i>	

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-03-12
Biologist(s)	Erik LaCoste
Survey Area	Tribal 3
Survey Pass	1

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	09:35:00	58	58	50	5	patchy	
	10:03:00	58	62	40	8	patchy	
	10:37:00	64	64	20	6	patchy	
	13:58:00	75	80	20	3	patchy	
End	15:25:00	73	74	10	4	clear	

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
Behrs metalmark (3)	funereal duskywing (2)	Sara Orangetip (4)
bramble hairstreak (3)	pale swallowtail (1)	southern blue (3)

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
sagebrush sparrow (1+)	Spring azure (4)	Spring white (1)

INCIDENTAL PLANT LIST		
(none)		

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-03-13
Biologist(s)	Darin Busby, Melissa Busby
Survey Area	Tribal 4
Survey Pass	1

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	13:10:00	70	70	100	7	overcast	Hazy
End	16:00:00	70	70	100	6	overcast	Hazy

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
Acmon blue (5)	brown elfin (3)	Pacific sara orangetip (3)
bramble hairstreak (1)	echo blue (8)	

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
(none)		

INCIDENTAL PLANT LIST		
(none)		

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-03-13
Biologist(s)	Darin Busby, Melissa Busby
Survey Area	Tribal 5
Survey Pass	1

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	10:15:00	68	68	100	3	overcast	Hazy and sun showing through clouds creating shadows
End	13:10:00	70	70	100	7	overcast	Hazy and sun showing through to create shadows

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
Acmon blue (3)	common california ringlet (1)	southern blue (1)
Behr's metalmark (1)	echo blue (7)	western tiger swallowtail (1)
bramble hairstreak (2)	Pacific sara orangetip (4)	
brown elfin (3)	pale swallowtail (1)	

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
(none)		

INCIDENTAL PLANT LIST		
(none)		

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-03-20
Biologist(s)	Paul Lemons
Survey Area	Tribal 6
Survey Pass	1

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	09:15:00	61	61	10	6	clear	
End	16:30:00	70	69	30	3	patchy	

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
anise swallowtail (1+)	brown elfin (1+)	Pacific sara orangetip (1+)
Behr's metalmark (1+)	checkered white (1+)	painted lady (1+)
bramble hairstreak (1+)	funereal duskywing (1+)	southern blue (1+)

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
oak titmouse (1+)	desert cottontail (1+)	northern flicker (1+)
American crow (1+)	Five-striped sparrow (1+)	red-tailed hawk (1+)
California ground squirrel (1+)	granite spiny lizard (1+)	white-crowned sparrow (1+)
California scrub-jay (1+)	greater roadrunner (1+)	wrentit (1+)
California thrasher (1+)	lesser goldfinch (1+)	

INCIDENTAL PLANT LIST		
(none)		

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-03-12
Biologist(s)	Jeffrey Priest
Survey Area	Tribal 7
Survey Pass	1

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	13:10:00	72	70	70	5		Protocol conditions at 1310. Area in Valley with limited view of sky and colder temperatures. Spoke with Brock and he confirmed I should stay out to see if it hits protocol conditions before 2pm. Prior conditions: 0911, 90%cc, w 2-6 with gusts 6-8 mph, air 64 F, ground 62 F. 0945, 90%cc, ground 62 F. 1015, 90% cc, ground 62 F. 1045, ground 64 F, 80% cc. 1116, ground 65, 80% cc. 1140, ground 64, 80%cc. 1207, ground 66, 70%cc. 1239, ground 66, 80%cc. 1256, ground 66, 90%cc / haze. Protocol conditions: 1310, ground 70F, air 72F, 70%cc, w 1-5 mph.
End	16:30:00	70	68	40	6		

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
Acmon blue (6)	funereal duskywing (8)	southern blue (2)
Behr's metalmark (1)	Pacific sara orangetip (12)	
bramble hairstreak (2)	painted lady (1)	

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
acorn woodpecker (1+)	California scrub-jay (1+)	lesser goldfinch (1+)

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
American crow (1+)	California thrasher (1+)	mourning dove (1+)
American kestrel (1+)	California towhee (1+)	phainopepla (1+)
Anna's hummingbird (1+)	common raven (1+)	spotted towhee (1+)
Bewick's wren (1+)	common side-blotched lizard (1+)	western meadowlark (1+)
Botta's pocket gopher (1+)	coyote (1+)	white-crowned sparrow (1+)
brush rabbit (1+)	granite spiny lizard (1+)	wrentit (1+)
bushtit (1+)	greater roadrunner (1+)	
California ground squirrel (1+)	house finch (1+)	

INCIDENTAL PLANT LIST		
(none)		

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-03-13
Biologist(s)	Jeffrey Priest
Survey Area	Tribal 7
Survey Pass	1

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	13:00:00	70	74	100	8	overcast	
End	17:00:00	67	70	100	7	overcast	

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
Acmon blue (1)	brown elfin (1)	Pacific sara orangetip (10)
Behr's metalmark (7)	funereal duskywing (6)	southern blue (1)

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
bobcat (1+)	common side-blotched lizard (1+)	red-tailed hawk (1+)
brush rabbit (1+)	granite spiny lizard (1+)	Say's phoebe (1+)
bushtit (1+)	greater roadrunner (1+)	Woodrat sp. (midden) (1+)
California thrasher (1+)	lesser goldfinch (1+)	
common raven (1+)	northern flicker (1+)	

INCIDENTAL PLANT LIST		
(none)		

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-03-12
Biologist(s)	Melissa Busby
Survey Area	Tribal 8
Survey Pass	1

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	09:30:00	62	65	60	2	patchy	
End	15:50:00	73	75	10	3	patchy	

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
Acmon blue (6)	brown elfin (4)	Proterius duskywing (1+)
Behr's metalmark (2)	funereal duskywing (5)	southern blue (6)
bramble hairstreak (9)	Pacific sara orangetip (11)	

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
(none)		

INCIDENTAL PLANT LIST		
(none)		

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-03-19
Biologist(s)	Darin Busby, Diana Saucedo
Survey Area	Tribal 9
Survey Pass	1

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	10:15:00	60	60	20	10	clear	
End	13:00:00	66	66	10	8	clear	

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
ACBL (1)	brown elfin (3)	funereal duskywing (1)
Behr's metalmark (3)	echo blue (2)	

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
PSOR (1)		

INCIDENTAL PLANT LIST		
<i>Erodium sp.</i>	<i>Ceanothus sp.</i>	
<i>Rhus ovata</i>	<i>Xylococcus bicolor</i>	

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-03-13
Biologist(s)	Erik LaCoste
Survey Area	Tribal 10
Survey Pass	1

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	09:59:00	66	63	100	1	overcast	
	10:30:00	66	66	100	1	overcast	
	11:30:00	67	74	100	1	overcast	
	12:27:00	70	75	100	4	overcast	
	13:48:00	72	73	80	6	overcast	
End	15:33:00	67	69	70	6	overcast	

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
bramble hairstreak (3)	echo blue (3)	pale swallowtail (2)
brown elfin (4)	painted lady (2)	Saras orangetip (1)

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
(none)		

INCIDENTAL PLANT LIST		
(none)		

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-03-19
Biologist(s)	Darin Busby, Diana Saucedo
Survey Area	Tribal 10
Survey Pass	1

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	13:15:00	66	66	10	8	clear	Surveyed a small portion of survey area 10, including the north-south running road in eastern portion of survey area.
End	16:00:00	66	66	10	8	patchy	Hazy

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
(none)		

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
(none)		

INCIDENTAL PLANT LIST		
<i>Arctostaphylos sp.</i>	<i>Ceanothus sp.</i>	<i>Erodium sp.</i>

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-03-20
Biologist(s)	Margie Mulligan
Survey Area	Tribal 1, Tribal 2
Survey Pass	2

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	09:40:00	63	65	0	2	clear	
	13:59:00	70	70	20	4	patchy	
End	16:07:00	70	73	40	2	patchy	

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
Acmon blue (1)	California tortoiseshell (1)	Pacific sara orangetip (2)
Behr's metalmark (3)	desert pearly marble (5)	pale swallowtail (1)
bramble hairstreak (4)	echo blue (4)	Proterops duskywing (3)
brown elfin (3)	funereal duskywing (2)	spring white (1)

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
Sulfur (1)		

INCIDENTAL PLANT LIST		
<i>Lasthenia gracilis</i>		

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-03-20
Biologist(s)	Erik LaCoste
Survey Area	Tribal 1, Tribal 2
Survey Pass	2

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	09:40:00	65	0	0	2	clear	
Mid day	13:56:00	70	75	20	4	patchy	
End	16:08:00	73	81	30	3	patchy	

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
Acmon blue (1)	California tortoiseshell (1)	pale swallowtail (1)
Behr's metalmark (5)	desert pearly marble (3)	Propertius duskywing (2)
bramble hairstreak (4)	echo blue (3)	Sara orangetip (2)
brown elfin (3)	funereal duskywing (1)	spring white (1)

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
(none)		

INCIDENTAL PLANT LIST		
(none)		

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-03-20
Biologist(s)	Darin Busby, Melissa Busby
Survey Area	Tribal 3
Survey Pass	2

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	09:30:00	62	64	0	6	clear	
End	13:00:00	74	78	20	6	patchy	

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
Behr's metalmark (6)	common california ringlet (1)	pale swallowtail (1)
Blue sp. (4)	desert pearly marble (3)	Propertius duskywing (1)
bramble hairstreak (8)	fiery skipper (2)	western tiger swallowtail (1)
brown elfin (3)	Pacific sara orangetip (4)	White sp. (2)

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
Moth sp. (2)		

INCIDENTAL PLANT LIST		
(none)		

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-03-20
Biologist(s)	Darin Busby, Melissa Busby
Survey Area	Tribal 4
Survey Pass	2

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	13:00:00	74	78	20	6	patchy	
End	16:15:00	70	72	20	5	patchy	

BUTTERFLY LIST SPECIES (COUNT)		
Acmon blue (13)	common california ringlet (4)	Pacific sara orangetip (4)
Behr's metalmark (3)	desert pearly marble (2)	western pygmy-blue (2)
bramble hairstreak (2)	echo blue (1)	White sp. (3)
brown elfin (4)	funereal duskywing (3)	

INCIDENTAL WILDLIFE LIST SPECIES (COUNT)		
Duskywing sp. (3)		

INCIDENTAL PLANT LIST		
<i>Arctostaphylos</i> sp.	<i>Erodium</i> sp.	
<i>Ceanothus</i> sp.	<i>Ceanothus leucodermis</i>	

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-03-21
Biologist(s)	Margie Mulligan
Survey Area	Tribal 5
Survey Pass	2

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	09:30:00	67	67	60	2	patchy	
	10:59:00	70	0	50	4	patchy	
End	15:48:00	71	0	40	4	patchy	

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
Acmon blue (2)	brown elfin (1)	Pacific sara orangetip (3)
Behr's metalmark (12)	desert pearly marble (4)	pale swallowtail (7)
bramble hairstreak (5)	echo blue (11)	Proterius duskywing (4)

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
(none)		

INCIDENTAL PLANT LIST		
(none)		

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-03-28
Biologist(s)	Jeffrey Priest
Survey Area	Tribal 6
Survey Pass	2

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	09:37:00	66	65	0	5		
End	13:35:00	72	70	0	12		

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
Acmon blue (2)	California tortoiseshell (1)	Pacific sara orangetip (16)
Behr's metalmark (13)	desert orangetip (1)	pale swallowtail (1)
bramble hairstreak (8)	desert pearly marble (2)	spring white (2)
brown elfin (2)	funereal duskywing (4)	

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
northern harrier (1+)	California scrub-jay (1+)	lesser goldfinch (1+)
American crow (1+)	California towhee (1+)	mule deer (1+)
Bewick's wren (1+)	common raven (1+)	Neotoma sp. (midden) (1+)
Botta's pocket gopher (1+)	common side-blotched lizard (1+)	phainopepla (1+)
brush rabbit (1+)	coyote (1+)	red-tailed hawk (1+)
bushtit (1+)	granite spiny lizard (1+)	spotted towhee (1+)
California ground squirrel (1+)	greater roadrunner (1+)	turkey vulture (1+)
California quail (1+)	house finch (1+)	western meadowlark (1+)

INCIDENTAL PLANT LIST		
(none)		

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-03-20
Biologist(s)	Jeffrey Priest
Survey Area	Tribal 7
Survey Pass	2

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	09:20:00	64	60	0	4	clear	5% cloud cover
End	14:00:00	74	76	50	5		

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
Acmon blue (6)	desert pearly marble (1)	pale swallowtail (1)
Behr's metalmark (11)	funereal duskywing (7)	southern blue (3)
bramble hairstreak (7)	Pacific sara orangetip (12)	western bluebird (1+)
checkered white (1)	painted lady (1)	

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
acorn woodpecker (1+)	California quail (1+)	coyote (1+)
American crow (1+)	California scrub-jay (1+)	granite spiny lizard (1+)
American kestrel (1+)	California thrasher (1+)	red-tailed hawk (1+)
Botta's pocket gopher (1+)	California towhee (1+)	western fence lizard (1+)
brush rabbit (1+)	common raven (1+)	western meadowlark (1+)
bushtit (1+)	common side-blotched lizard (1+)	Woodrat sp. (midden) (1+)

INCIDENTAL PLANT LIST		
(none)		

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-03-20
Biologist(s)	Jeffrey Priest
Survey Area	Tribal 8
Survey Pass	2

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	14:00:00	74	76	50	5		
End	16:00:00	72	72	50	6		

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
Behr's metalmark (3)	funereal duskywing (2)	
California tortoiseshell (2)	Pacific sara orangetip (1)	

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
Lawrence's goldfinch (1+)	red-tailed hawk (1+)	Say's phoebe (1+)

INCIDENTAL PLANT LIST		
(none)		

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-03-21
Biologist(s)	Jeffrey Priest
Survey Area	Tribal 8
Survey Pass	2

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	10:30:00	72	70	90	5		Did not reach protocol temperatures until 1030. Conditions: 0930, 62 F ground, 75% cc. 0956, ground 62 F, air 67, 75% cc. 1017, 66 F ground, 75% cc.
End	15:15:00	76	78	80	8		

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
Acmon blue (6)	checkered white (2)	Pacific sara orangetip (9)
Behr's metalmark (12)	desert pearly marble (5)	painted lady (1)
bramble hairstreak (8)	funereal duskywing (4)	southern blue (2)

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
Blainville's horned lizard (1+)	California scrub-jay (1+)	Neotoma sp. (midden) (1+)
acorn woodpecker (1+)	California towhee (1+)	northern flicker (1+)
American crow (1+)	common raven (1+)	red-tailed hawk (1+)
Anna's hummingbird (1+)	common side-blotched lizard (1+)	rock wren (1+)
Botta's pocket gopher (1+)	coyote (1+)	spotted towhee (1+)
brush rabbit (1+)	greater roadrunner (1+)	turkey vulture (1+)
bushtit (1+)	house finch (1+)	wrentit (1+)
California ground squirrel (1+)	lesser goldfinch (1+)	

INCIDENTAL PLANT LIST		
(none)		

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-03-21
Biologist(s)	Diana Saucedo
Survey Area	Tribal 9
Survey Pass	2

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	09:35:00	64	62.2	20	5	patchy	High haze
End	16:35:00	73	73	40	5	patchy	High thin clouds

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
Acmon blue (2)	California tortoiseshell (5)	Pacific sara orangetip (3)
Behr's metalmark (5)	desert pearly marble (1)	sleepy duskywing (1)
bramble hairstreak (7)	funereal duskywing (11)	

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
(none)		

INCIDENTAL PLANT LIST		
(none)		

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-03-20
Biologist(s)	Diana Saucedo
Survey Area	Tribal 10
Survey Pass	2

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	09:50:00	66	63	0	2	clear	
End	15:15:00	76	74	40	8	patchy	
End	15:40:00	76	74	40	9	patchy	

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
Acmon blue (5)	bramble hairstreak (3)	funereal duskywing (7)
Afranius duskywing (3)	brown elfin (7)	Pacific sara orangetip (3)
Behr's metalmark (3)	echo blue (5)	pale swallowtail (2)

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
(none)		

INCIDENTAL PLANT LIST		
(none)		

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-03-28
Biologist(s)	Erik LaCoste, Melissa Busby
Survey Area	Tribal 1, Tribal 2
Survey Pass	3

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	09:20:00	65	65	0	2	clear	
	12:01:00	66	0	0	10	clear	
End	16:15:00	68	0	0	11	clear	

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
Acmon blue (2)	desert pearly marble (5)	pale swallowtail (2)
Behr's metalmark (6)	echo blue (5)	Propertius duskywing (8)
bramble hairstreak (14)	funereal duskywing (1)	spring white (6)
brown elfin (4)	Pacific sara orangetip (13)	western pygmy-blue (1)

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
(none)		

INCIDENTAL PLANT LIST		
(none)		

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-03-29
Biologist(s)	Erik LaCoste
Survey Area	Tribal 3, Tribal 4
Survey Pass	3

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	09:46:00	67	0	0	3	clear	
End	15:50:00	75	0	0	3	clear	

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
Acmon blue (6)	California tortoiseshell (1)	pale swallowtail (3)
Behr's metalmark (2)	desert pearly marble (8)	Propertius duskywing (6)
bramble hairstreak (4)	echo blue (1)	spring white (2)
brown elfin (3)	Pacific sara orangetip (11)	

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
(none)		

INCIDENTAL PLANT LIST		
(none)		

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-03-29
Biologist(s)	Diana Saucedo, Erik LaCoste
Survey Area	Tribal 3, Tribal 4
Survey Pass	3

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	09:45:00	67	65	0	3	clear	
End	15:50:00	75	70	0	3	clear	

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
Acmon blue (3)	California tortoiseshell (1)	Pacific sara orangetip (12)
Behr's metalmark (10)	cloudless sulphur (1)	pale swallowtail (3)
bramble hairstreak (5)	desert pearly marble (3)	Propertius duskywing (3)
brown elfin (2)	echo blue (2)	spring white (1)

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
(none)		

INCIDENTAL PLANT LIST		
(none)		

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-03-29
Biologist(s)	Margie Mulligan
Survey Area	Tribal 5
Survey Pass	3

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	09:20:00	72	72	0	3	clear	
End	16:10:00	78	82	0	4	clear	

BUTTERFLY LIST SPECIES (COUNT)		
Acmon blue (4)	desert pearly marble (4)	Proterptus duskywing (8)
Behr's metalmark (12)	echo blue (9)	spring white (12)
bramble hairstreak (9)	Pacific sara orangetip (9)	
brown elfin (6)	pale swallowtail (11)	

INCIDENTAL WILDLIFE LIST SPECIES (COUNT)		
(none)		

INCIDENTAL PLANT LIST		
<i>Caulanthus simulans</i>	<i>Ceanothus cuneatus var. cuneatus</i>	

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-03-28
Biologist(s)	Diana Saucedo
Survey Area	Tribal 6
Survey Pass	3

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	09:45:00	66	65	0	5	clear	
End	13:30:00	72	70	0	12	clear	

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
anise swallowtail (3)	California tortoiseshell (3)	Pacific sara orangetip (11)
Behr's metalmark (10)	desert orangetip (3)	pale swallowtail (1)
bramble hairstreak (17)	echo blue (2)	Propertius duskywing (7)
brown elfin (6)	funereal duskywing (8)	spring white (2)

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
(none)		

INCIDENTAL PLANT LIST		
(none)		

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-03-30
Biologist(s)	Jeffrey Priest
Survey Area	Tribal 6
Survey Pass	3

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	09:40:00	74	68	0	8		
End	16:00:00	82	82	70	12		

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
Acmon blue (1+)	desert orangetip (1+)	Pacific sara orangetip (15)
anise swallowtail (1+)	desert pearly marble (11)	pale swallowtail (1)
Behr's metalmark (8)	funereal duskywing (1+)	southern blue (1+)
bramble hairstreak (7)	orange sulphur (1+)	

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
Blainville's horned lizard (1+)	California ground squirrel (1+)	house finch (1+)
American crow (1+)	California quail (1+)	mourning dove (1+)
Anna's hummingbird (1+)	California scrub-jay (1+)	mule deer (1+)
Bewick's wren (1+)	California towhee (1+)	red-tailed hawk (1+)
black-tailed jackrabbit (1+)	common raven (1+)	spotted towhee (1+)
Botta's pocket gopher (1+)	common side-blotched lizard (1+)	turkey vulture (1+)
brush rabbit (1+)	granite spiny lizard (1+)	western meadowlark (1+)
bushtit (1+)	greater roadrunner (1+)	

INCIDENTAL PLANT LIST		
(none)		

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-03-30
Biologist(s)	Diana Saucedo
Survey Area	Tribal 7
Survey Pass	3

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	09:30:00	71	0	0	3	clear	
End	16:00:00	78	0	0	8	clear	

BUTTERFLY LIST SPECIES (COUNT)		
Acmon blue (8)	desert pearly marble (2)	Propertius duskywing (1)
Behr's metalmark (27)	echo blue (1)	red admiral (1)
bramble hairstreak (3)	funereal duskywing (3)	spring white (7)
California tortoiseshell (3)	Pacific sara orangetip (39)	
desert orangetip (6)	pale swallowtail (3)	

INCIDENTAL WILDLIFE LIST SPECIES (COUNT)		
(none)		

INCIDENTAL PLANT LIST		
<i>Amsinckia intermedia</i>	<i>Nemophila menziesii</i>	

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-03-30
Biologist(s)	Margie Mulligan
Survey Area	Tribal 8
Survey Pass	3

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	09:28:00	83	82	0	3	clear	
End	15:22:00	84	87	70	4	overcast	

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
Acmon blue (2)	California tortoiseshell (1)	pale swallowtail (1)
Behr's metalmark (23)	desert orangetip (20)	Propertius duskywing (5)
bramble hairstreak (14)	desert pearly marble (14)	southern blue (1)
brown elfin (3)	Pacific sara orangetip (22)	spring white (2)

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
(none)		

INCIDENTAL PLANT LIST		
<i>Amsinckia intermedia</i>		

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-03-30
Biologist(s)	Margie Mulligan
Survey Area	Tribal 8
Survey Pass	3

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	09:28:00	83	82	0	3	clear	
End	15:22:00	84	87	70	4	overcast	

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
Acmon blue (2)	California tortoiseshell (1)	pale swallowtail (1)
Behr's metalmark (23)	desert orangetip (20)	Propertius duskywing (5)
bramble hairstreak (14)	desert pearly marble (14)	southern blue (1)
brown elfin (3)	Pacific sara orangetip (22)	spring white (2)

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
(none)		

INCIDENTAL PLANT LIST		
<i>Pectocarya sp.</i>	<i>Amsinckia intermedia</i>	

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-03-28
Biologist(s)	Callie Amoaku
Survey Area	Tribal 9
Survey Pass	3

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	09:07:00	63	65	0	0	clear	
2	11:11:00	66	69	0	4	clear	
2	12:50:00	70	72	0	3	clear	
3	15:03:00	68	71	0	5	clear	
End	15:53:00	68	71	0	2	clear	

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
Acmon blue (2)	California tortoiseshell (5)	Pacific sara orangetip (24)
Behr's metalmark (17)	checkered white (1)	southern blue (2)
bramble hairstreak (4)	desert pearly marble (2)	White sp. (1+)
brown elfin (1)	funereal duskywing (4)	

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
American kestrel (1+)	California quail (1+)	spotted towhee (1+)
Bell's sparrow (1+)	California scrub-jay (1+)	turkey vulture (1+)
black-tailed jackrabbit (1+)	California towhee (1+)	white-crowned sparrow (1+)
bobcat (1+)	common raven (1+)	wrentit (1+)
bushtit (1+)	northern flicker (1+)	
California ground squirrel (1+)	northern rough-winged swallow (1+)	

INCIDENTAL PLANT LIST		
(none)		

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-03-29
Biologist(s)	Jeffrey Priest
Survey Area	Tribal 10
Survey Pass	3

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	09:15:00	68	66	0	1		
End	15:30:00	77	78	0	8		

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
Acmon blue (2)	California tortoiseshell (1)	funereal duskywing (1)
Behr's metalmark (5)	checkered white (7)	Pacific sara orangetip (13)
bramble hairstreak (4)	desert orangetip (4)	spring white (1)
brown elfin (1)	desert pearly marble (10)	

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
acorn woodpecker (1+)	California scrub-jay (1+)	house finch (1+)
American crow (1+)	California towhee (1+)	lesser goldfinch (1+)
bobcat (1+)	common raven (1+)	mourning dove (1+)
Botta's pocket gopher (1+)	common side-blotched lizard (1+)	mule deer (1+)
brush rabbit (1+)	coyote (1+)	phainopepla (1+)
bushtit (1+)	gophersnake (1+)	red-tailed hawk (1+)
California ground squirrel (1+)	granite spiny lizard (1+)	western kingbird (1+)
California quail (1+)	greater roadrunner (1+)	white-crowned sparrow (1+)

INCIDENTAL PLANT LIST		
(none)		

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-04-04
Biologist(s)	Margie Mulligan
Survey Area	Tribal 1, Tribal 2
Survey Pass	4

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	09:30:00	73	74	50	1	patchy	
Mid	12:46:00	73	0	30	10	patchy	
End	16:16:00	78	79	10	4	clear	

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
Acmon blue (5)	desert pearly marble (16)	Propertius duskywing (6)
Behr's metalmark (14)	echo blue (4)	spring white (1)
bramble hairstreak (4)	Pacific sara orangetip (8)	western tailed-blue (1)
brown elfin (6)	pale swallowtail (1)	

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
(none)		

INCIDENTAL PLANT LIST		
<i>Cryptantha</i> sp.	<i>Lasthenia gracilis</i>	<i>Senecio californicus</i>

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-04-04
Biologist(s)	Erik LaCoste
Survey Area	Tribal 1, Tribal 2
Survey Pass	4

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	09:30:00	73	74	50	1	patchy	
Mid.	12:46:00	73	73	30	10	patchy	
End	16:15:00	79	79	10	4	clear	

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
Acmon blue (6)	desert pearly marble (14)	southern blue (1)
Behr's metalmark (12)	Pacific sara orangetip (6)	spring white (1)
bramble hairstreak (4)	pale swallowtail (1)	western tailed-blue (1)
brown elfin (6)	Propertius duskywing (2)	

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
(none)		

INCIDENTAL PLANT LIST		
(none)		

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-04-03
Biologist(s)	Diana Saucedo
Survey Area	Tribal 3, Tribal 4
Survey Pass	4

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	09:30:00	62	62	0	4	clear	
End	16:00:00	78	78	10	1	clear	

BUTTERFLY LIST SPECIES (COUNT)		
Acmon blue (2)	desert orangetip (6)	Proterius duskywing (5)
Behr's metalmark (16)	desert pearly marble (9)	sleepy duskywing (1)
bramble hairstreak (6)	funereal duskywing (3)	southern blue (3)
brown elfin (2)	Pacific sara orangetip (11)	spring white (8)

INCIDENTAL WILDLIFE LIST SPECIES (COUNT)		
(none)		

INCIDENTAL PLANT LIST		
<i>Ceanothus leucodermis</i>	<i>Erodium cicutarium</i>	<i>Plagiobothrys collinus</i>
<i>Ceanothus perplexans</i>	<i>Eschscholzia californica</i>	
<i>Descurainia pinnata</i>	<i>Nemophila menziesii</i>	

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-04-03
Biologist(s)	Erik LaCoste
Survey Area	Tribal 3, Tribal 4
Survey Pass	4

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	09:30:00	62	62	0	4	clear	
End	16:00:00	78	78	10	2	clear	

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
Acmon blue (3)	desert pearly marble (15)	Southern blue (1)
Behrs metalmark (24)	Pacific sara orangetip (16)	spring white (2)
bramble hairstreak (5)	pale swallowtail (1)	
brown elfin (1)	Propertius duskywing (5)	

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
(none)		

INCIDENTAL PLANT LIST		
(none)		

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-04-05
Biologist(s)	Margie Mulligan
Survey Area	Tribal 3, Tribal 9
Survey Pass	4

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	09:13:00	64	65	10	8	clear	
End	16:05:00	73.5	74	20	5	patchy	

BUTTERFLY LIST SPECIES (COUNT)		
Acmon blue (1)	Chalcedon variable checkerspot (1)	Pacific sara orangetip (16)
Behr's metalmark (25)	desert pearly marble (12)	Proterotus duskywing (9)
bramble hairstreak (6)	echo blue (1)	spring white (7)
brown elfin (4)	funereal duskywing (2)	western tiger swallowtail (1)

INCIDENTAL WILDLIFE LIST SPECIES (COUNT)		
Colias sp. (2)		

INCIDENTAL PLANT LIST		
<i>Cryptantha</i> sp.	<i>Amsinckia menziesii</i>	
<i>Pectocarya</i> sp.	<i>Lasthenia gracilis</i>	

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-04-04
Biologist(s)	Diana Saucedo
Survey Area	Tribal 5
Survey Pass	4

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	09:20:00	73	71.1	10	2	clear	
End	16:00:00	83	0	10	5	patchy	

BUTTERFLY LIST SPECIES (COUNT)		
Acmon blue (17)	desert orangetip (4)	Pacific sara orangetip (21)
Behr's metalmark (33)	desert pearly marble (9)	pale swallowtail (11)
bramble hairstreak (8)	echo blue (3)	spring white (18)
brown elfin (1)	funereal duskywing (9)	west coast lady (1)

INCIDENTAL WILDLIFE LIST SPECIES (COUNT)		
(none)		

INCIDENTAL PLANT LIST		
<i>Amsinckia menziesii</i>	<i>Ephedra californica</i>	<i>Nemophila menziesii</i>
<i>Ceanothus leucodermis</i>	<i>Erodium cicutarium</i>	<i>Solanum douglasii</i>
<i>Ceanothus perplexans</i>	<i>Eschscholzia californica</i>	

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-04-03
Biologist(s)	Jeffrey Priest
Survey Area	Tribal 6
Survey Pass	4

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	11:00:00	70	72	30	12		
End	17:45:00	68	68	30	8		

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
Acmon blue (8)	brown elfin (1)	Pacific sara orangetip (17)
anise swallowtail (1)	desert orangetip (4)	pale swallowtail (1)
Behr's metalmark (8)	desert pearly marble (1)	Propertius duskywing (4)
bramble hairstreak (7)	funereal duskywing (1)	

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
rufous hummingbird (1+)	California towhee (1+)	mule deer (1+)
American crow (1+)	Cassin's kingbird (1+)	Neotoma sp. (midden) (1+)
Bewick's wren (1+)	common raven (1+)	red-tailed hawk (1+)
Botta's pocket gopher (1+)	common side-blotched lizard (1+)	turkey vulture (1+)
bushtit (1+)	coyote (1+)	western meadowlark (1+)
California quail (1+)	granite spiny lizard (1+)	
California scrub-jay (1+)	mourning dove (1+)	

INCIDENTAL PLANT LIST		
(none)		

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-04-04
Biologist(s)	Jeffrey Priest
Survey Area	Tribal 7
Survey Pass	4

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	09:15:00	68	64	30	4		
End	16:15:00	74	76	10	9		

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
Acmon blue (5)	brown elfin (5)	Pacific sara orangetip (23)
Behr's metalmark (19)	desert orangetip (7)	Propertius duskywing (1)
bramble hairstreak (6)	funereal duskywing (1)	spring white (4)

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
American crow (1+)	common raven (1+)	northern flicker (1+)
Botta's pocket gopher (1+)	common side-blotched lizard (1+)	red-tailed hawk (1+)
brush rabbit (1+)	coyote (1+)	spotted towhee (1+)
bushtit (1+)	K-rat sp. (burrows amd tail-drag sign) (1+)	western meadowlark (1+)
California ground squirrel (1+)	lesser goldfinch (1+)	
California towhee (1+)	Neotoma sp. (midden) (1+)	

INCIDENTAL PLANT LIST		
(none)		

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-04-16
Biologist(s)	Darin Busby, Melissa Busby
Survey Area	Tribal 8
Survey Pass	4

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	09:30:00	54	62	20	18	patchy	Hazy skies; average wind = 11mph
End	13:10:00	66	66	20	19	patchy	Hazy skies; average wind = 16mph

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
Acmon blue (14)	desert pearly marble (3)	Propertius duskywing (1)
Behr's metalmark (22)	Orangetip sp. (1)	Sulphur sp. (2)
bramble hairstreak (1)	Pacific sara orangetip (7)	
Chalcedon variable checkerspot (45)	pale swallowtail (6)	

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
(none)		

INCIDENTAL PLANT LIST		
(none)		

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-04-02
Biologist(s)	Darin Busby, Erik LaCoste
Survey Area	Tribal 9, Tribal 10
Survey Pass	4

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	09:40:00	56	61	10	8	clear	
Mid	11:09:00	62	62	10	9	clear	
Mid. Start area 10	13:00:00	67	67	0	12	clear	
End	16:00:00	67	69	10	14	clear	

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
anise swallowtail (1)	cabbage white (1)	Pacific sara orangetip (36)
Behr's metalmark (10)	California tortoiseshell (1)	Propertius duskywing (11)
bramble hairstreak (13)	desert pearly marble (19)	
brown elfin (1)	funereal duskywing (1)	

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
Spring white (1)		

INCIDENTAL PLANT LIST		
(none)		

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-04-23
Biologist(s)	Diana Saucedo
Survey Area	Tribal 1
Survey Pass	5

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	09:05:00	73	73	0	1	clear	
End	16:20:00	85	87	50	7	patchy	

BUTTERFLY LIST SPECIES (COUNT)		
Acmon blue (4)	desert orangetip (7)	Pacific sara orangetip (3)
Behr's metalmark (22)	desert pearly marble (6)	pale swallowtail (4)
bramble hairstreak (2)	funereal duskywing (5)	Propertius duskywing (1)
brown elfin (2)	mourning cloak (1)	spring white (7)
checkered white (10)	orange sulphur (1)	

INCIDENTAL WILDLIFE LIST SPECIES (COUNT)		
(none)		

INCIDENTAL PLANT LIST		
<i>Amsinckia intermedia</i>	<i>Gilia capitata</i> ssp. <i>abrotanifolia</i>	<i>Linanthus bellus</i>
<i>Ceanothus perplexans</i>	<i>Lasthenia gracilis</i>	<i>Nemophila menziesii</i>
<i>Ericameria linearifolia</i>	<i>Leptosiphon lemmonii</i>	

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-04-09
Biologist(s)	Darin Busby
Survey Area	Tribal 2
Survey Pass	5

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	08:30:00	71	68	0	12	clear	
Weather check	11:30:00	76	78	0	14	clear	
End	16:00:00	82	82	0	10	clear	

BUTTERFLY LIST SPECIES (COUNT)		
Acmon blue (5)	desert orangetip (12)	spring white (10)
Behr's metalmark (26)	desert pearly marble (11)	Sulphur sp. (1)
Blue sp. (1)	Mylitta crescent (2)	White sp. (9)
brown elfin (4)	Pacific sara orangetip (24)	
California patch (1)	Proterius duskywing (3)	

INCIDENTAL WILDLIFE LIST SPECIES (COUNT)		
Duskywing sp. (4)		

INCIDENTAL PLANT LIST		
<i>Arctostaphylos</i> sp.	<i>Boechera perennans</i>	<i>Lasthenia gracilis</i>
<i>Cryptantha</i> sp.	<i>Ceanothus leucodermis</i>	<i>Layia glandulosa</i>
<i>Ericameria</i> sp.	<i>Ceanothus perplexans</i>	<i>Phacelia parryi</i>
<i>Erodium</i> sp.	<i>Dendromecon rigida</i>	<i>Trichostema lanatum</i>
<i>Penstemon</i> sp.	<i>Eschscholzia californica</i>	

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-04-10
Biologist(s)	Diana Saucedo
Survey Area	Tribal 3
Survey Pass	5

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	08:30:00	70	0	0	2	clear	
End	16:30:00	83	0	0	16	clear	High winds beginning

BUTTERFLY LIST SPECIES (COUNT)		
Acmon blue (10)	desert pearly marble (30)	sleepy duskywing (5)
Behr's metalmark (51)	funereal duskywing (16)	spring white (9)
bramble hairstreak (10)	Pacific sara orangetip (53)	
desert orangetip (8)	pale swallowtail (3)	

INCIDENTAL WILDLIFE LIST SPECIES (COUNT)		
(none)		

INCIDENTAL PLANT LIST		
<i>Cryptantha</i> spp	<i>Amsinckia intermedia</i>	<i>Nemophila menziesii</i>
<i>Plagiobotrys</i> spp	<i>Lasthenia gracilis</i>	

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-04-18
Biologist(s)	Erin Bergman
Survey Area	Tribal 4
Survey Pass	5

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	08:30:00	67	67.5	0	2	clear	
Temp check	10:16:00	74	75	0	1	clear	
End	16:24:00	72	73	0	1	clear	

BUTTERFLY LIST SPECIES (COUNT)		
Acmon blue (5)	Pacific sara orangetip (7)	White species (7)
Behr's metalmark (23)	pale swallowtail (1)	
desert pearly marble (3)	spring white (1)	

INCIDENTAL WILDLIFE LIST SPECIES (COUNT)		
Bewick's wren (1+)	California towhee (1+)	turkey vulture (1+)
California quail (1+)	common raven (1+)	western meadowlark (1+)
California scrub-jay (1+)	mourning dove (1+)	white-crowned sparrow (1+)
California thrasher (1+)	red-tailed hawk (1+)	

INCIDENTAL PLANT LIST		
<i>Cryptantha species</i>	<i>Eulobus californicus</i>	<i>Penstemon centranthifolius</i>
<i>Amsinckia intermedia</i>	<i>Lasthenia gracilis</i>	<i>Phacelia parryi</i>
<i>Camissoniopsis confusa</i>	<i>Leptosyne californica</i>	<i>Salvia columbariae</i>
<i>Ceanothus leucodermis</i>	<i>Lupinus bicolor</i>	<i>Sisymbrium altissimum</i>
<i>Chaenactis glabriuscula</i> var. <i>glabriuscula</i>	<i>Nemophila menziesii</i>	
<i>Erodium cicutarium</i>	<i>Paeonia californica</i>	

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-04-11
Biologist(s)	Diana Saucedo
Survey Area	Tribal 5
Survey Pass	5

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	09:00:00	73	0	0	5	clear	HWA DAY
Interim	14:00:00	83	0	0	14.5	clear	Butterflies still flying
End	15:45:00	83	0	20	14	patchy	HWA

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
Acmon blue (21)	California tortoiseshell (1)	Pacific sara orangetip (22)
anise swallowtail (1)	desert pearly marble (16)	pale swallowtail (13)
Behr's metalmark (19)	echo blue (2)	spring white (15)
bramble hairstreak (8)	funereal duskywing (14)	variable checkerspot (1)
brown elfin (8)	orange sulphur (2)	

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
(none)		

INCIDENTAL PLANT LIST		
<i>Ceanothus leucodermis</i>	<i>Lasthenia gracilis</i>	
<i>Ceanothus perplexans</i>	<i>Nemophila menziesii</i>	

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-04-09
Biologist(s)	Jeffrey Priest
Survey Area	Tribal 6
Survey Pass	5

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	08:30:00	72	68	0	8	clear	
End	15:15:00	78	82	30	10		

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
Acmon blue (5)	Edward's blue (1)	Proterius duskywing (1)
Behr's metalmark (17)	funereal duskywing (2)	spring white (8)
bramble hairstreak (9)	Pacific sara orangetip (3)	
Chalcedon variable checkerspot (1)	pale swallowtail (2)	

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
	California scrub-jay (1+)	granite spiny lizard (1+)
Blainville's horned lizard (1+)	California towhee (1+)	house finch (1+)
Anna's hummingbird (1+)	common raven (1+)	Neotoma sp. (midden) (1+)
Botta's pocket gopher (1+)	common side-blotched lizard (1+)	red-tailed hawk (1+)
bushtit (1+)	coyote (1+)	

INCIDENTAL PLANT LIST		
(none)		

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-04-10
Biologist(s)	Jeffrey Priest
Survey Area	Tribal 7
Survey Pass	5

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	08:30:00	67	63	40	1		
End	15:15:00	86	92	10	6		

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
Acmon blue (8)	desert orangetip (10)	pale swallowtail (3)
Behr's metalmark (24)	funereal duskywing (2)	Proterptus duskywing (2)
bramble hairstreak (6)	orange sulphur (1)	spring white (9)
checkered white (1)	Pacific sara orangetip (22)	

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
American crow (1+)	common side-blotched lizard (1+)	mourning dove (1+)
brush rabbit (1+)	coyote (1+)	red-tailed hawk (1+)
bushtit (1+)	greater roadrunner (1+)	turkey vulture (1+)
California towhee (1+)	horned lark (1+)	
common raven (1+)	K-rat sp. (tail-drags and burrows) (1+)	

INCIDENTAL PLANT LIST		
(none)		

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-04-20
Biologist(s)	Diana Saucedo
Survey Area	Tribal 8
Survey Pass	5

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	09:10:00	61	63	0	2	clear	
End	15:40:00	76	76	0	7	clear	

BUTTERFLY LIST SPECIES (COUNT)		
Acmon blue (13)	common sootywing (4)	Pacific sara orangetip (30)
Behr's metalmark (20)	desert orangetip (1)	pale swallowtail (5)
bramble hairstreak (10)	desert pearly marble (9)	southern blue (1)
brown elfin (1)	echo blue (3)	spring white (3)
California sister (1)	funereal duskywing (4)	variable checkerspot (55)
cloudless sulphur (1)	orange sulphur (3)	

INCIDENTAL WILDLIFE LIST SPECIES (COUNT)		
(none)		

INCIDENTAL PLANT LIST		
<i>Ceanothus perplexans</i>	<i>Layia platyglossa</i>	
<i>Lasthenia gracilis</i>	<i>Rhus ovata</i>	

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-04-11
Biologist(s)	Callie Amoaku
Survey Area	Tribal 9
Survey Pass	5

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	08:15:00	79	70	0	1	clear	
2	10:56:00	78	79	10	2	clear	
3	12:48:00	80	86	0	9	clear	
4	14:31:00	77	84	0	12	clear	Gusts
End	15:43:00	81	82	0	12	clear	Gusts

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
Acmon blue (5)	checkered white (2)	Proterops duskywing (9)
Behr's metalmark (43)	desert pearly marble (14)	sleepy duskywing (2)
bramble hairstreak (5)	funereal duskywing (9)	southern blue (2)
brown elfin (2)	Pacific sara orangetip (68)	spring white (8)

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
Bewick's wren (1+)	coyote (1+)	western rattlesnake (1+)
bushtit (1+)	red-tailed hawk (1+)	white-crowned sparrow (1+)
California scrub-jay (1+)	sagebrush sparrow (1+)	wrentit (1+)
common raven (1+)	spotted towhee (1+)	

INCIDENTAL PLANT LIST		
<i>Cryptantha</i> sp.	<i>Lasthenia</i> sp.	<i>Amsinckia intermedia</i>

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-04-17
Biologist(s)	Darin Busby, Diana Saucedo, Erik LaCoste, Melissa Busby
Survey Area	Tribal 9, Tribal 10
Survey Pass	5, 6

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	09:45:00	60	63	0	7	clear	
Weather check	11:00:00	58	62	0	16	clear	Average wind speed = 13mph
Weather check	12:30:00	60	62	0	12	clear	
End	14:30:00	61	69	0	10	clear	

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
Behr's metalmark (8)	brown elfin (2)	Pacific sara orangetip (15)
Blue sp. (1)	checkered white (5)	pale swallowtail (1)
bramble hairstreak (7)	desert pearly marble (11)	Propertius duskywing (6)

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
(none)		

INCIDENTAL PLANT LIST		
(none)		

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-04-20
Biologist(s)	Margie Mulligan
Survey Area	Tribal 2
Survey Pass	6

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	09:25:00	60	0	0	6	clear	
End	16:30:00	75	0	0	9	clear	

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
Acmon blue (4)	bramble hairstreak (1)	Pacific sara orangetip (4)
Behr's metalmark (15)	desert pearly marble (6)	southern blue (1)

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
(none)		

INCIDENTAL PLANT LIST		
<i>Layia glandulosa</i>	<i>Linathus gracilis</i>	<i>Leptosiphon parviflorus</i>

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-04-24
Biologist(s)	Erik LaCoste
Survey Area	Tribal 3
Survey Pass	6

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	08:45:00	66	65	10	2	clear	
Mid	10:23:00	73	74	30	8	patchy	
End	15:42:00	78	80	40	11	patchy	

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
Acmon blue (12)	desert pearly marble (1)	pale swallowtail (6)
Behr's metalmark (14)	funereal duskywing (4)	Propertius duskywing (5)
bramble hairstreak (2)	orange sulphur (1)	spring white (6)
California tortoiseshell (1)	Pacific sara orangetip (7)	

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
(none)		

INCIDENTAL PLANT LIST		
(none)		

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-04-20
Biologist(s)	Erik LaCoste
Survey Area	Tribal 4
Survey Pass	6

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	09:40:00	60	60	0	2	clear	
End	16:30:00	75	75	0	9	clear	

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
Acmon blue (1)	desert pearly marble (2)	Propertius duskywing (3)
Behr's metalmark (2)	Pacific sara orangetip (4)	spring white (3)
bramble hairstreak (1)	pale swallowtail (7)	

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
(none)		

INCIDENTAL PLANT LIST		
(none)		

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-04-20
Biologist(s)	Callie Amoaku
Survey Area	Tribal 5
Survey Pass	6

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	09:00:00	62.6	66	0	1	clear	
2	13:06:00	73	76	0	4	clear	
End	16:07:00	73	76	0	3	clear	

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
Acmon blue (5)	desert pearly marble (1+)	Propertius duskywing (1)
Behr's metalmark (17)	funereal duskywing (2)	sleepy duskywing (1+)
bramble hairstreak (9)	Gabb's checkerspot (1+)	southern blue (1+)
brown elfin (1+)	Pacific sara orangetip (3)	spring white (8)
Chalcedon variable checkerspot (1)	pale swallowtail (2)	western tiger swallowtail (1+)

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
Blainville's horned lizard (1+)	common yellowthroat (1+)	northern rough-winged swallow (1+)
California quail (1+)	house finch (1+)	red-tailed hawk (1+)
California scrub-jay (1+)	lesser goldfinch (1+)	red-winged blackbird (1+)
common raven (1+)	northern mockingbird (1+)	turkey vulture (1+)

INCIDENTAL PLANT LIST		
(none)		

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-04-18
Biologist(s)	Erik LaCoste
Survey Area	Tribal 6
Survey Pass	6

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	08:45:00	63	62	0	4	clear	
End	15:30:00	87	85	30	7	patchy	

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
Acmon blue (2)	echo blue (1)	Proterius duskywing (5)
Behr's metalmark (3)	funereal duskywing (1)	spring white (10)
bramble hairstreak (4)	great purple hairstreak (1)	variable checkerspot (2)
brown elfin (2)	Pacific sara orangetip (8)	
desert pearly marble (6)	pale swallowtail (4)	

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
(none)		

INCIDENTAL PLANT LIST		
(none)		

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-04-18
Biologist(s)	Diana Saucedo
Survey Area	Tribal 7
Survey Pass	6

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	09:00:00	63	63	0	0	clear	
End	15:35:00	69	71	0	7	clear	

BUTTERFLY LIST SPECIES (COUNT)		
Acmon blue (13)	desert pearly marble (8)	painted lady (2)
Behr's metalmark (31)	echo blue (5)	pale swallowtail (1)
bramble hairstreak (7)	funereal duskywing (10)	Propertius duskywing (7)
brown elfin (3)	orange sulphur (3)	spring white (8)
desert orangetip (1)	Pacific sara orangetip (30)	variable checkerspot (1)

INCIDENTAL WILDLIFE LIST SPECIES (COUNT)		
(none)		

INCIDENTAL PLANT LIST		
<i>Amsinckia intermedia</i>	<i>Lasthenia gracilis</i>	<i>Nemophila menziesii</i>
<i>Ceanothus leucodermis</i>	<i>Layia platyglossa</i>	<i>Rhus ovata</i>

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-04-23
Biologist(s)	Darin Busby, Melissa Busby
Survey Area	Tribal 8, Tribal 10
Survey Pass	6

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	08:45:00	73	75	0	5	clear	
End	15:15:00	86	88	30	10	patchy	

BUTTERFLY LIST SPECIES (COUNT)		
Acmon blue (43)	Chalcedon variable checkerspot (132)	pale swallowtail (7)
Behr's metalmark (44)	checkered white (6)	Proterotus duskywing (13)
Blue sp. (10)	desert orangetip (7)	Sulphur sp. (2)
bramble hairstreak (10)	desert pearly marble (12)	White sp. (10)
brown elfin (3)	Pacific sara orangetip (35)	

INCIDENTAL WILDLIFE LIST SPECIES (COUNT)		
(none)		

INCIDENTAL PLANT LIST		
<i>Anagallis arvensis</i>	<i>Castilleja affinis</i>	<i>Phacelia cicutaria</i> var. <i>hispida</i>
<i>Arctostaphylos</i> sp.	<i>Ceanothus leucodermis</i>	<i>Plagiobothrys nothofulvus</i>
<i>Brassica</i> sp.	<i>Eschscholzia californica</i>	<i>Rhus aromatica</i>
<i>Chaenactis</i> sp.	<i>Lasthenia gracilis</i>	<i>Rhus ovata</i>
<i>Erodium</i> sp.	<i>Linanthus dianthiflorus</i>	<i>Sambucus nigra</i>
<i>Lupinus</i> sp.	<i>Penstemon centranthifolius</i>	<i>Trichostema lanatum</i>
<i>Amsinckia menziesii</i>	<i>Penstemon spectabilis</i>	<i>Yucca schidigera</i>

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-04-27
Biologist(s)	Darin Busby, Erik LaCoste
Survey Area	Tribal 1, Tribal 4
Survey Pass	6, 7

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	08:45:00	71	69	0	4	clear	
End	15:30:00	78	82	0	15	clear	

BUTTERFLY LIST SPECIES (COUNT)		
Acmon blue (8)	desert pearly marble (8)	western tailed-blue (1)
Behr's metalmark (10)	marine blue (1)	White sp. (1+)
brown elfin (1)	pale swallowtail (5)	
common sootywing (2)	Propertius duskywing (4)	

INCIDENTAL WILDLIFE LIST SPECIES (COUNT)		
(none)		

INCIDENTAL PLANT LIST		
<i>Acmispon argophyllum</i> var. <i>argophyllum</i>	<i>Ericameria linearifolia</i>	<i>Mimulus aurantiacus</i>
<i>Amsinckia menziesii</i>	<i>Eriophyllum confertiflorum</i> var. <i>confertiflorum</i>	<i>Penstemon clevelandii</i>
<i>Anisocoma acaulis</i>	<i>Eriophyllum wallacei</i>	<i>Penstemon spectabilis</i>
<i>Chaenactis glabriuscula</i> var. <i>glabriuscula</i>	<i>Eschscholzia californica</i>	<i>Phacelia parryi</i>
<i>Dichelostemma capitatum</i>	<i>Lasthenia gracilis</i>	<i>Salvia columbariae</i>

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-05-04
Biologist(s)	Jeffrey Priest
Survey Area	Tribal 1
Survey Pass	7

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	09:40:00	73	72	0	7		
Mid day conditions	13:10:00	80	82	0	8		
End	17:00:00	75	78	0	8		

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
Acmon blue (3)	desert orangetip (1)	pale swallowtail (1)
Behr's metalmark (8)	desert pearly marble (1)	
blue-gray gnatcatcher (1+)	Lorquin's admiral (1)	

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
Blainville's horned lizard (1+)	California ground squirrel (1+)	house finch (1+)
oak titmouse (1+)	California quail (1+)	lesser goldfinch (1+)
acorn woodpecker (1+)	California scrub-jay (1+)	mourning dove (1+)
American crow (1+)	California thrasher (1+)	mule deer (1+)
ash-throated flycatcher (1+)	California towhee (1+)	northern flicker (1+)
Botta's pocket gopher (1+)	common raven (1+)	spotted towhee (1+)
brush rabbit (1+)	common side-blotched lizard (1+)	western skink (1+)
bushtit (1+)	granite spiny lizard (1+)	wrentit (1+)

INCIDENTAL PLANT LIST		
(none)		

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-04-25
Biologist(s)	Erik LaCoste
Survey Area	Tribal 2
Survey Pass	7

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	08:45:00	66	66	0	9	clear	
Mid	10:37:00	75	75	0	13	clear	
Mid	12:57:00	79	79	0	15	clear	
End	15:15:00	78	76	10	15	patchy	

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
Acmon blue (10)	funereal duskywing (1)	pale swallowtail (1)
Behr's metalmark (1)	Pacific sara orangetip (3)	Proterpius duskywing (1)

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
Spring white (1)		

INCIDENTAL PLANT LIST		
(none)		

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-05-03
Biologist(s)	Jeffrey Priest
Survey Area	Tribal 3
Survey Pass	7

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Not protocol yet.	08:45:00	54	57	0	9		Not protocol yet.
Not protocol yet.	09:15:00	58	54	0	10		Not protocol yet.
Not protocol yet.	09:40:00	60	56	0	10		Not protocol yet.
Start	10:00:00	62	60	0	10		Protocol conditions reached at 1000.
Mid afternoon conditions on a ridge.	14:00:00	70	72	0	10		Winds 6-10 with gusts 10-18 on ridge.
End	16:35:00	70	72	0	10		

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
Acmon blue (8)	checkered white (5)	orange sulphur (1)
Behr's metalmark (18)	common california ringlet (1)	spring white (7)
bramble hairstreak (2)	desert pearly marble (11)	

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
Blainville's horned lizard (1+)	California quail (1+)	house finch (1+)
oak titmouse (1+)	California scrub-jay (1+)	lesser goldfinch (1+)
acorn woodpecker (1+)	California thrasher (1+)	mourning dove (1+)
American crow (1+)	California towhee (1+)	northern flicker (1+)
Anna's hummingbird (1+)	cliff swallow (1+)	phainopepla (1+)
ash-throated flycatcher (1+)	common raven (1+)	red-tailed hawk (1+)
brush rabbit (1+)	common side-blotched lizard (1+)	spotted towhee (1+)
bushtit (1+)	granite spiny lizard (1+)	turkey vulture (1+)
California ground squirrel (1+)	greater roadrunner (1+)	white-throated swift (1+)

INCIDENTAL PLANT LIST

(none)		
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Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-04-26
Biologist(s)	Jeffrey Priest
Survey Area	Tribal 5
Survey Pass	7

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
End	03:05:00	80	84	30	10		
Start	08:50:00	69	70	50	2		

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
Acmon blue (16)	checkered white (4)	pale swallowtail (24)
Behr's metalmark (23)	Edward's blue (2)	Proterops duskywing (1)
brown elfin (1)	funereal duskywing (1)	tiger whiptail (1+)
cabbage white (3)	orange sulphur (1)	
California patch (1)	Pacific sara orangetip (1)	

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
Blainville's horned lizard (1+)	California towhee (1+)	lesser goldfinch (1+)
Anna's hummingbird (1+)	common raven (1+)	mourning dove (1+)
Botta's pocket gopher (1+)	common side-blotched lizard (1+)	mule deer (1+)
brush rabbit (1+)	coyote (1+)	red-tailed hawk (1+)
bushtit (1+)	desert cottontail (1+)	rock wren (1+)
California ground squirrel (1+)	granite spiny lizard (1+)	spotted towhee (1+)
California quail (1+)	great horned owl (1+)	turkey vulture (1+)
California scrub-jay (1+)	house finch (1+)	

INCIDENTAL PLANT LIST		
(none)		

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-04-25
Biologist(s)	Darin Busby
Survey Area	Tribal 6
Survey Pass	7

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	08:40:00	69	71	0	4	clear	
End	15:20:00	81	87	0	10	clear	

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
Acmon blue (11)	desert pearly marble (20)	pale swallowtail (4)
Behr's metalmark (34)	funereal duskywing (8)	Propertius duskywing (5)
bramble hairstreak (3)	Gabb's checkerspot (4)	spring white (2)
brown elfin (1)	Pacific sara orangetip (12)	

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
(none)		

INCIDENTAL PLANT LIST		
(none)		

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-04-24
Biologist(s)	Darin Busby
Survey Area	Tribal 7
Survey Pass	7

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	08:45:00	67	65	10	1	patchy	
End	15:20:00	84	88	20	8	patchy	

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
Acmon blue (9)	California sister (1)	Pacific sara orangetip (12)
Behr's metalmark (26)	Chalcedon variable checkerspot (4)	Propertius duskywing (8)
bramble hairstreak (4)	checkered white (3)	White sp. (5)
brown elfin (3)	desert pearly marble (16)	

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
(none)		

INCIDENTAL PLANT LIST		
(none)		

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-04-27
Biologist(s)	Erin Bergman
Survey Area	Tribal 8
Survey Pass	7

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	08:30:00	66	67	0	1	clear	
End	16:33:00	75	78	0	1	clear	

BUTTERFLY LIST SPECIES (COUNT)		
Acmon blue (37)	desert pearly marble (10)	spring white (4)
Behr's metalmark (62)	orange sulphur (2)	White species (6)
California patch (2)	Pacific sara orangetip (16)	
Chalcedon variable checkerspot (69)	pale swallowtail (4)	

INCIDENTAL WILDLIFE LIST SPECIES (COUNT)		
California quail (1+)	chipping sparrow (1+)	rosy boa (1+)
California scrub-jay (1+)	Duskywing species (1)	wrentit (1+)

INCIDENTAL PLANT LIST		
<i>Amsinckia intermedia</i>	<i>Lupinus bicolor</i>	<i>Sisymbrium altissimum</i>
<i>Hirschfeldia incana</i>	<i>Paeonia californica</i>	
<i>Lasthenia gracilis</i>	<i>Penstemon centranthifolius</i>	

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-04-24
Biologist(s)	Diana Saucedo
Survey Area	Tribal 9
Survey Pass	7

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	08:50:00	72	72	20	2	patchy	
End	15:25:00	87	89	30	0	patchy	

BUTTERFLY LIST SPECIES (COUNT)		
Acmon blue (1)	desert pearly marble (11)	Pacific sara orangetip (6)
Behr's metalmark (14)	echo blue (1)	Proteropterus duskywing (5)
bramble hairstreak (1)	Edward's blue (3)	spring white (3)
checkered white (3)	funereal duskywing (1)	
desert orangetip (3)	orange sulphur (1)	

INCIDENTAL WILDLIFE LIST SPECIES (COUNT)		
(none)		

INCIDENTAL PLANT LIST		
<i>Collinsia</i>	<i>Ceanothus perplexans</i>	<i>Rhus ovata</i>
<i>Phacelia</i>	<i>Dichelostemma capitatum</i>	<i>Salvia columbariae</i>
<i>Amsinckia intermedia</i>	<i>Gilia capitata</i>	
<i>Arctostaphylos glauca</i>	<i>Layia platyglossa</i>	

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-05-03
Biologist(s)	Erik LaCoste, Melissa Busby
Survey Area	Tribal 10
Survey Pass	7

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	09:41:00	63	63	0	8	clear	
End	12:13:00	73	71	0	7	clear	

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
Behr's metalmark (2)	brown elfin (1)	Pacific sara orangetip (1)

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
(none)		

INCIDENTAL PLANT LIST		
(none)		

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-05-07
Biologist(s)	Erik LaCoste
Survey Area	Tribal 1
Survey Pass	8

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	08:45:00	73	68	10	4	clear	
Mid day	12:40:00	83	88	0	17	clear	
End	15:30:00	88	92	0	15	clear	

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
Acmon blue (2)	California sister (2)	marine blue (1)
Behr's metalmark (5)	echo blue (3)	Propertius duskywing (2)
brown elfin (1)	funereal duskywing (1)	

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
(none)		

INCIDENTAL PLANT LIST		
(none)		

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-05-08
Biologist(s)	Diana Saucedo, Erik LaCoste
Survey Area	Tribal 2, Tribal 7
Survey Pass	8

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	08:45:00	75	71	0	3	clear	
End	16:15:00	88	92	0	8	clear	

BUTTERFLY LIST SPECIES (COUNT)		
Acmon blue (12)	checkered white (2)	Pacific sara orangetip (2)
Behr's metalmark (17)	cloudless sulphur (3)	pale swallowtail (3)
brown elfin (1)	desert pearly marble (4)	Propertius duskywing (1)
California sister (2)	marine blue (13)	queen (1)
Chalcedon variable checkerspot (8)	orange sulphur (3)	

INCIDENTAL WILDLIFE LIST SPECIES (COUNT)		
(none)		

INCIDENTAL PLANT LIST		
(none)		

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-05-09
Biologist(s)	Jeffrey Priest
Survey Area	Tribal 3
Survey Pass	8

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	08:45:00	74	70	0	2		
Mid day	12:08:00	86	88	20	8		
End	17:00:00	92	94	10	6		

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
Acmon blue (16)	funereal duskywing (2)	pale swallowtail (2)
Behr's metalmark (13)	Lorquin's admiral (2)	Propertius duskywing (1)
brown elfin (1)	marine blue (6)	southern blue (2)
desert pearly marble (1)	orange sulphur (1)	
Edward's blue (3)	painted lady (1)	

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
acorn woodpecker (1+)	cliff swallow (1+)	northern mockingbird (1+)
American crow (1+)	common raven (1+)	northern rough-winged swallow (1+)
Anna's hummingbird (1+)	common side-blotched lizard (1+)	red-tailed hawk (1+)
ash-throated flycatcher (1+)	coyote (1+)	rock wren (1+)
black-throated sparrow (1+)	granite spiny lizard (1+)	spotted towhee (1+)
Botta's pocket gopher (1+)	greater roadrunner (1+)	turkey vulture (1+)
brush rabbit (1+)	lesser goldfinch (1+)	white-throated swift (1+)
California scrub-jay (1+)	Merriam's chipmunk (1+)	wrentit (1+)
California thrasher (1+)	mourning dove (1+)	
California towhee (1+)	mule deer (1+)	

INCIDENTAL PLANT LIST

(none)

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-05-08
Biologist(s)	Jeffrey Priest
Survey Area	Tribal 4
Survey Pass	8

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	08:45:00	76	70	40	4		
Mid day	13:36:00	84	88	60	6		
End	16:15:00	89	92	20	8		

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
Acmon blue (4)	common california ringlet (1)	Proterops duskywing (1)
Behr's metalmark (1)	Edward's blue (2)	western tiger swallowtail (1)
blue-gray gnatcatcher (1+)	orange sulphur (1)	
Chalcedon variable checkerspot (1)	pale swallowtail (3)	

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
acorn woodpecker (1+)	common raven (1+)	mourning dove (1+)
Anna's hummingbird (1+)	common side-blotched lizard (1+)	northern flicker (1+)
ash-throated flycatcher (1+)	coyote (1+)	red-tailed hawk (1+)
black-throated sparrow (1+)	granite spiny lizard (1+)	spotted towhee (1+)
California quail (1+)	greater roadrunner (1+)	turkey vulture (1+)
California scrub-jay (1+)	house finch (1+)	western meadowlark (1+)
California thrasher (1+)	lesser goldfinch (1+)	western rattlesnake (1+)
California towhee (1+)	Merriam's chipmunk (1+)	wrentit (1+)

INCIDENTAL PLANT LIST		
(none)		

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-05-09
Biologist(s)	Diana Saucedo
Survey Area	Tribal 5
Survey Pass	8

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	08:45:00	77	79	0	1	clear	
End	15:30:00	95	98	0	4	clear	

BUTTERFLY LIST SPECIES (COUNT)		
Acmon blue (30)	desert pearly marble (4)	pale swallowtail (12)
anise swallowtail (1)	fiery skipper (1)	Proterpius duskywing (1)
Behr's metalmark (15)	funereal duskywing (2)	spring white (4)
California patch (2)	Harford's sulphur (3)	variable checkerspot (5)
California sister (3)	marine blue (15)	
common buckeye (1)	orange sulphur (1)	

INCIDENTAL WILDLIFE LIST SPECIES (COUNT)		
(none)		

INCIDENTAL PLANT LIST		
<i>Cryptantha</i> spp	<i>Castilleja foliolosa</i>	<i>Malacothrix glabrata</i>
<i>Phacelia</i> sp	<i>Ceanothus perplexans</i>	
<i>Plagiobotrys</i> spp	<i>Eriophyllum confertiflorum</i>	

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-05-03
Biologist(s)	Erik LaCoste, Melissa Busby
Survey Area	Tribal 8
Survey Pass	8

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	12:17:00	73	71	0	8	clear	
End	16:00:00	79	83	0	6	clear	

BUTTERFLY LIST SPECIES (COUNT)		
Acmon blue (26)	Chalcedon variable checkerspot (70)	orange sulphur (3)
Behr's metalmark (14)	desert pearly marble (1)	Southern blue (2)
bramble hairstreak (3)	Gabb's checkerspot (1)	

INCIDENTAL WILDLIFE LIST SPECIES (COUNT)		
(none)		

INCIDENTAL PLANT LIST		
(none)		

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-05-04
Biologist(s)	Erik LaCoste
Survey Area	Tribal 9
Survey Pass	8

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	11:20:00	78	82	0	8	clear	
End	16:15:00	86	88	0	8	clear	

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
Acmon blue (4)	Propertius duskywing (2)	

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
(none)		

INCIDENTAL PLANT LIST		
(none)		

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-05-07
Biologist(s)	Darin Busby
Survey Area	Tribal 10
Survey Pass	8

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	08:45:00	73	73	10	3	clear	
End	15:03:00	86	89	0	8	clear	

BUTTERFLY LIST SPECIES (COUNT)		
Behr's metalmark (3)	California sister (2)	western tiger swallowtail (2)
Blue sp. (5)	Chalcedon variable checkerspot (5)	White sp. (6)
bramble hairstreak (5)	echo blue (2)	
brown elfin (1)	marine blue (2)	

INCIDENTAL WILDLIFE LIST SPECIES (COUNT)		
(none)		

INCIDENTAL PLANT LIST		
<i>Erysimum</i> sp.	<i>Eriophyllum confertiflorum</i>	<i>Penstemon centranthifolius</i>
<i>Castilleja affinis</i>	<i>Eschscholzia californica</i>	<i>Trichostema lanatum</i>
<i>Eriastrum sapphirinum</i>	<i>Lasthenia gracilis</i>	

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-05-10
Biologist(s)	Diana Saucedo, Margie Mulligan
Survey Area	Tribal 6, Tribal 7
Survey Pass	8, 9

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	09:09:00	72	74	10	6	clear	
End	16:30:00	85	88	0	7	clear	

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
Acmon blue (21)	Chalcedon variable checkerspot (11)	orange sulphur (1)
Behr's metalmark (11)	funereal duskywing (2)	Pacific sara orangetip (1)
Bernardino square-spotted blue (20)	Gabb's checkerspot (1)	pale swallowtail (2)
brown elfin (1)	Harford's sulphur (2)	western tailed-blue (1)
California sister (2)	marine blue (5)	

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
(none)		

INCIDENTAL PLANT LIST		
(none)		

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-05-15
Biologist(s)	Diana Saucedo
Survey Area	Tribal 1
Survey Pass	9

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	09:15:00	67	67	0	7	clear	Great day for wind, bad day for butterflies.
Windy	12:40:00	74	0	0	13	clear	Sustained winds above 10-13 mph
End	16:35:00	78	76	0	8	clear	

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
Acmon blue (14)	California sister (4)	pale swallowtail (2)
Behr's metalmark (1)	hedgerow hairstreak (1)	Proterius duskywing (1)
Bernardino square-spotted blue (14)	Melissa blue (4)	

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
(none)		

INCIDENTAL PLANT LIST		
<i>Cryptantha sp</i>		

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-05-10
Biologist(s)	Jeffrey Priest
Survey Area	Tribal 2
Survey Pass	9

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	08:40:00	76	74	0	8		
End	16:40:00	82	88	0	10		

BUTTERFLY LIST SPECIES (COUNT)		
San Diegan tiger whiptail (1+)	desert orangetip (1)	orange sulphur (1)
Acmon blue (13)	Lorquin's admiral (4)	
Behr's metalmark (4)	marine blue (3)	

INCIDENTAL WILDLIFE LIST SPECIES (COUNT)		
Cooper's hawk (1+)	California scrub-jay (1+)	lesser goldfinch (1+)
American kestrel (1+)	California towhee (1+)	long-nosed snake (1+)
Botta's pocket gopher (1+)	common side-blotched lizard (1+)	mule deer (1+)
brush rabbit (1+)	granite spiny lizard (1+)	red-tailed hawk (1+)
bushtit (1+)	greater roadrunner (1+)	turkey vulture (1+)
California ground squirrel (1+)	house finch (1+)	
California quail (1+)	house wren (1+)	

INCIDENTAL PLANT LIST		
(none)		

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-05-14
Biologist(s)	Jeffrey Priest
Survey Area	Tribal 3
Survey Pass	9

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	08:50:00	62	64	0	3		
Mid day	12:08:00	70	73	0	10		
End	17:05:00	70	72	0	10		

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
Acmon blue (20)	brown elfin (1)	Edward's blue (4)
Behr's metalmark (8)	cabbage white (1)	pale swallowtail (1)
blue-gray gnatcatcher (1+)	Chalcedon variable checkerspot (1)	

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
Anna's hummingbird (1+)	gophersnake (1+)	lesser goldfinch (1+)
Botta's pocket gopher (1+)	granite spiny lizard (1+)	mourning dove (1+)
brush rabbit (1+)	great horned owl (1+)	phainopepla (1+)
California towhee (1+)	house finch (1+)	spotted towhee (1+)
common side-blotched lizard (1+)	house wren (1+)	turkey vulture (1+)

INCIDENTAL PLANT LIST		
(none)		

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-05-15
Biologist(s)	Jeffrey Priest
Survey Area	Tribal 4
Survey Pass	9

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	08:40:00	60	65	0	5		
Mid day	12:08:00	76	78	0	8		
End	15:25:00	75	80	0	8		

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
Acmon blue (13)	blue-gray gnatcatcher (1+)	Edward's blue (3)
Behr's metalmark (1)	brown elfin (1)	marine blue (6)

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
Blainville's horned lizard (1+)	bushtit (1+)	house finch (1+)
Costa's hummingbird (1+)	California scrub-jay (1+)	lesser goldfinch (1+)
acorn woodpecker (1+)	California towhee (1+)	mourning dove (1+)
American crow (1+)	common raven (1+)	red-tailed hawk (1+)
Anna's hummingbird (1+)	common side-blotched lizard (1+)	rock wren (1+)
Bewick's wren (1+)	granite spiny lizard (1+)	spotted towhee (1+)

INCIDENTAL PLANT LIST		
(none)		

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-05-14
Biologist(s)	Anita Hayworth
Survey Area	Tribal 5
Survey Pass	9

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	08:45:00	63	64	0	6		
End	15:42:00	74	76	0	9		

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
Acmon blue (1)	desert pearly marble (1+)	marine blue (1)
Behr's metalmark (1+)	Harford's sulphur (1)	pale swallowtail (1)
Chalcedon variable checkerspot (1+)	Lorquin's admiral (1)	spring white (1)

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
black-chinned sparrow (1+)	California towhee (1+)	Nuttall's woodpecker (1+)
Costa's hummingbird (1+)	canyon wren (1+)	red-tailed hawk (1+)
Anna's hummingbird (1+)	common raven (1+)	red-winged blackbird (1+)
Bewick's wren (1+)	house finch (1+)	rock wren (1+)
black-headed grosbeak (1+)	Hutton's vireo (1+)	Say's phoebe (1+)
bushtit (1+)	lesser goldfinch (1+)	spotted towhee (1+)
California quail (1+)	mourning dove (1+)	turkey vulture (1+)
California scrub-jay (1+)	northern flicker (1+)	wrentit (1+)
California thrasher (1+)	northern rough-winged swallow (1+)	

INCIDENTAL PLANT LIST		
(none)		

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-05-15
Biologist(s)	Patricia Schuyler
Survey Area	Tribal 6
Survey Pass	9

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	09:00:00	64	64	0	2	clear	
End	14:46:00	78	81	10	5	clear	

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
Acmon blue (20)	Behr's metalmark (1)	Gabb's checkerspot (2)

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
California scrub-jay (1+)	common raven (1+)	turkey vulture (1+)
California towhee (1+)	spotted towhee (1+)	white-crowned sparrow (1+)

INCIDENTAL PLANT LIST		
(none)		

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-05-14
Biologist(s)	Erik LaCoste, Melissa Busby
Survey Area	Tribal 8, Tribal 9
Survey Pass	9

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	08:45:00	62	62	0	5	clear	
Mid	13:35:00	70	82	0	12	clear	
End	15:30:00	71	77	0	9	clear	

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
Behr's metalmark (6)	funereal duskywing (2)	pale swallowtail (1)
Bernardino square-spotted blue (67)	Gabb's checkerspot (2)	Propertius duskywing (2)
California sister (2)	gray hairstreak (4)	western pygmy-blue (1)
Chalcedon variable checkerspot (84)	marine blue (2)	
common sootywing (1)	orange sulphur (8)	

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
(none)		

INCIDENTAL PLANT LIST		
(none)		

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-05-10
Biologist(s)	Erik LaCoste
Survey Area	Tribal 10
Survey Pass	9

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	08:45:00	78	74	0	5	clear	
End	15:00:00	88	89	0	12	clear	

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
Acmon blue (2)	funereal duskywing (1)	
Chalcedon variable checkerspot (1)	marine blue (3)	

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
(none)		

INCIDENTAL PLANT LIST		
(none)		

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-05-16
Biologist(s)	Diana Saucedo
Survey Area	Tribal 2
Survey Pass	10

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	08:45:00	67	68	0	7	clear	Breeze sustained above 7 mph
End	16:00:00	74	73	0	13	clear	

BUTTERFLY LIST SPECIES (COUNT)		
Acmon blue (5)	California sister (1)	pale swallowtail (1)
Behr's metalmark (3)	Harford's sulphur (1)	
Bernardino square-spotted blue (15)	Melissa blue (2)	

INCIDENTAL WILDLIFE LIST SPECIES (COUNT)		
(none)		

INCIDENTAL PLANT LIST		
<i>Cryptantha sp</i>		

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-05-15
Biologist(s)	Erik LaCoste
Survey Area	Tribal 7
Survey Pass	10

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	08:40:00	64	64	0	2	clear	
End	15:10:00	78	85	0	12	clear	

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
Acmon blue (2)	California sister (2)	funereal duskywing (1)
Behr's metalmark (4)	Chalcedon variable checkerspot (3)	marine blue (4)
Bernardino square-spotted blue (12)	checkered white (2)	orange sulphur (2)

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
(none)		

INCIDENTAL PLANT LIST		
(none)		

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-05-18
Biologist(s)	Jeffrey Priest
Survey Area	Tribal 9
Survey Pass	10

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Not protocol yet	08:30:00	55	56	0	8		
Start	09:15:00	58	60	0	5		
End	16:05:00	70	74	0	8		

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
Acmon blue (8)	Bernardino square-spotted blue (24)	

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
Blainville's horned lizard (1+)	common raven (1+)	red-tailed hawk (1+)
American kestrel (1+)	common side-blotched lizard (1+)	rock wren (1+)
black-tailed jackrabbit (1+)	coyote (1+)	turkey vulture (1+)
bushtit (1+)	house finch (1+)	western meadowlark (1+)
California towhee (1+)	lesser nighthawk (1+)	white-throated swift (1+)
cliff swallow (1+)	mule deer (1+)	

INCIDENTAL PLANT LIST		
(none)		

Quino Checkerspot Butterfly Survey Data Form

GENERAL SURVEY INFORMATION	
Project Name	Campo Wind (Tribal Land)
Survey Date	2018-05-16
Biologist(s)	Erik LaCoste
Survey Area	Tribal 10
Survey Pass	10

SURVEY CONDITIONS							
Status	Time	Air Temp. (F)	Ground Temp. (F)	Cloud Cover (%)	Wind (mph)	Sky	Notes
Start	08:40:00	68	67	0	3	clear	
End	15:00:00	78	80	0	8	clear	

BUTTERFLY LIST <i>SPECIES (COUNT)</i>		
Behr's metalmark (1)	Chalcedon variable checkerspot (2)	
Bernardino square-spotted blue (5)	checkered white (1)	

INCIDENTAL WILDLIFE LIST <i>SPECIES (COUNT)</i>		
(none)		

INCIDENTAL PLANT LIST		
(none)		

